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## Recommendation Quality and Placement Success

A Study of the Relation Between an Estimate of the Quality of Written  
Recommendations and Success in Securing Certain  
Types of Teaching Positions

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# RECOMMENDATION QUALITY AND PLACEMENT SUCCESS

## CHAPTER 1

### THE PROBLEM IN GENERAL TERMS

**D**O RECOMMENDATIONS mean anything? Do successful candidates, in general, have better recommendations than unsuccessful candidates? Such questions are of interest to all concerned with the placement process. Recommendations are supposed to be over-all estimates by teachers and former employers, people who should be in a position to know the candidate's qualifications, so there is sufficient reason to presume that recommendations are important in the process of securing a position, and yet, actual contact with the placement process has given many people, candidates and employers alike, an uneasy feeling about the significance of recommendations. Some will argue that recommendations are influential and some will argue that they are not, but very few argue with much confidence. Employers may wonder how much weight to put in recommendations, but in the actual practice of employing candidates they must answer the question for themselves at least. And the answer is written in what they do. Therefore it seemed important to take actual job-situations and to investigate the relation between an estimate of the quality of recommendations and success attained in securing teaching positions. This study is focused on that relation.

In general, the problem demands a comparison of the quality of recommendations of successful candidates with that of unsuccessful candidates. Do successful candidates have better recommendations than unsuccessful candidates? Immediately two questions arise. What is a success-

ful candidate? With respect to what are recommendations to be classed as being of better quality? It is easy to see that success is a relative matter and means one thing when the position carries a salary of \$2400 and quite another thing when the salary is \$1600. It is known, for instance, that many candidates unsuccessful in securing \$2400 positions have had little difficulty in securing \$2000 positions, whereas other candidates successful in securing \$1600 positions have had little fortune with \$2000 positions. The concept success must be refined to read success with respect to position X. If that is true, obviously, the unsuccessful candidates compared with the successful candidate must be unsuccessful with respect to the same position. In the present study each comparison of successful candidates with unsuccessful candidates has been made within the context of a given position.

There are several characteristics of recommendations which might have been investigated, but in the research reported here primary attention has been given to the quality of the recommendation, by which is meant the enthusiasm for the candidate expressed by the writer as exhibited in the favorableness of the modifying terms employed. The recommendations were analyzed and evaluated with respect to this characteristic by a process which gave each recommendation a score. Then the recommendations of the successful candidate were compared with those of his unsuccessful competitors for the same position, to discover whether there was any association between recom-

mendation quality and placement success.

It was recognized that the findings might be influenced by extra-recommendation factors that had interfered in such a way as to conceal an underlying relation between placement success and recommendation quality. Therefore a study was made of each job-situation individually, on the basis of which certain job-situations were selected as being reasonably free from the influence of such interfering factors. For this reduced number of selected job-situations the comparison of the recommendations of successful candidates with those of their unsuccessful competitors was repeated.

Inasmuch as mass data were employed,

statistical techniques were required. For the most part analysis of variance methods were relied upon, the use of which effected a pooling of the comparisons made within the context of the individual job-situations.

The job-situations studied involved positions to teach the regular academic subjects on the secondary level. The candidates were all registrants in the Office of Placement Service of Teachers College, Columbia University, who were nominated for the vacant positions in response to inquiries addressed to the Office during the academic year 1936-37. Fifty-eight positions were investigated for which 183 candidates were nominated, there being a total of 1035 recommendations.

## CHAPTER 2

### THE SELECTION OF THE JOB-SITUATIONS

THE JOB-SITUATIONS studied in this investigation involved positions to teach the regular academic subjects on the secondary level: English, French, German, Italian, speech, history, social studies, mathematics, and the sciences, or any combination of these subjects. Positions to teach in junior high schools, senior high schools, and junior colleges, whether public or private, were accepted. Positions as critic teachers in the training schools of teacher training institutions were also included. No position was accepted unless it was a position to teach at the secondary level, defined as grades 7 through 14.

All of the job-situations were located through inquiries or requests for the nomination of candidates which had been received by the Office of Placement Service of Teachers College and which had been closed during the period of a year, from July 1, 1936 to July 1, 1937. The positions connected with the inquiries, for the most part, required the candidate to begin work either in September, 1936, or in September, 1937. Some positions were for 1937 summer sessions, however, and in one or two cases the work started in the middle of the academic year.

All of the inquiries that were received and were closed during the period mentioned had been filed alphabetically by name of the community in which the position was located and by state. These inquiries were reviewed and all those regarding secondary school positions in the subjects enumerated were taken out. From among these were selected all of the job-situations in which the employer

had either chosen a Teachers College candidate or had definitely indicated his preference among Teachers College candidates. Whenever there was clear indication of the preference of the employer for a given candidate from among the several suggested by the Office of Placement Service, that candidate was considered successful for purposes of this research, regardless of whether he was offered the position or whether he accepted it.

All of the correspondence and records relating to the inquiry and to the registrants connected with it in any way were studied in order to determine just which ones were bona fide candidates for the position. On the inquiry record form used in the Office all possible candidates for nomination for a vacant position are listed. The form is used as a practical memorandum to refresh the memory of the executive during the process of assisting an employer. It is not a record of what occurred, written after the conclusion of the process. Therefore it was necessary to check against other records to be sure that any given individual had been thought of by the employer as a candidate for the position. The form itself provided the first check because the date of dispatch of credentials to the employer was usually entered. Candidates are requested to return a memorandum to the Office indicating whether they have or have not applied for the position. That provided a second check; but not every candidate is careful to return the memorandum indicating his decision, and some employers ask the Office not to have the candidates send letters

of application in which case there is no memorandum to be returned. In the individual candidate's file, however, there is a record of employers to whom his credentials have been sent together with the dates of their dispatch. For a third check this record was examined for every candidate and the date the credentials were sent out was checked with the date the inquiry was received and the date the position was filled. Reading the correspondence provided a fourth check inasmuch as the names of the candidates who had applied and were being considered were usually mentioned. From four sources, then—the inquiry record form, the notice from the candidate indicating whether he had applied for the position, the record of credentials sent to employers, and the correspondence—a check was obtained on whether the candidate had applied for the position and whether his credentials had been sent to the employer. Unless there was positive evidence that the candidate had applied and that his credentials had been sent to the employer, the candidate was eliminated from consideration in regard to that job-situation.

In some cases a candidate who had applied for the position and whose credentials had been sent lost interest when the salary was learned. Such candidates were eliminated. Two candidates were eliminated from one job-situation, in spite of the fact that one of them was successful, because there was no evidence that their credentials had been evaluated by the employer. Both candidates had been interviewed by the employer, but there was no record of their credentials having been sent out.

Inasmuch as all of the research was done after the positions were filled, the sets of credentials studied sometimes contained recommendations written after

the time at which the candidate's credentials were reviewed by the employer. Therefore the date of every recommendation of each candidate was checked with the dates connected with the job-situation. Most of the recommendations were found to have been written before the date of the inquiry. If a recommendation had been written after that date, its date was checked with the date on which the credentials had been sent to the employer. If a recommendation had been written after that date, the correspondence was re-read to see if there was mention of the forwarding of additional recommendations—a frequent occurrence. Comparison of the date of the recommendation with the date the position was filled provided a negative check.

Finally the credentials of every candidate as well as the records pertaining to every job-situation were checked to be sure that all of the information needed for the research was complete. A total of 96 inquiries were found to have records warranting further investigation of the job-situations.

These 96 inquiries represent a selection from all of the inquiries, of the type studied, received by Teachers College throughout the years. Membership in that sample is determined on the basis of the year in which the inquiry was received, so it is not a random sample. Yet, probably, few would maintain that it is a biased sample. The job-situations represented by the inquiries received by Teachers College requesting the nomination of candidates qualified to teach certain secondary school subjects probably do not vary much from year to year. There is no reason to suppose that the year 1936-37 was atypical in the calibre of the candidates available, in the character of the recommendations written for those candidates, in the nature of the

positions to be filled, or in the reactions of the employers toward recommendations. Nevertheless, the dependability with which conclusions based upon a study of 1936-37 job-situations can be applied to the job-situations of other years is a matter of judgment. The author is willing to leave the judgment to the reader, though it seems to him that conclusions for 1936-37 would be acceptable for a period of years before and after that time.

For similar reasons the 96 job-situations cannot be considered a random sample of the job-situations referred to the placement offices of teacher training institutions generally. To the extent that Teachers College is a unique institution, it might even be considered a selected sample. However, inasmuch as it is unlikely that the qualitative aspect of the relation between recommendation quality and placement success varies greatly from one type of job-situation to another, findings concerning that relation may be considered important. Again the final judgment is left to the reader as to the extent to which conclusions based upon job-situations referred to the Teachers College placement office should be applied to job-situations generally.

Using cards to facilitate the process, the job-situations, and thereby the candidates, were selected in the following manner. From among the 96 job-situations one was selected by chance. Then a second job-situation was selected by chance. If there was no duplication in the names of the candidates listed for the two positions, the second job-situation was retained. If one or more candidates appeared as nominees for both positions, the second job-situation was rejected. Then a third job-situation was selected by chance. The list of nominees for this position was compared with the lists

for both previous positions, and so on. Finally 58 of the 96 job-situations had been retained and 38 had been rejected. For these positions there were altogether 183 nominees whose candidacies could be used for the purposes of this investigation. Every one of these candidates appears in this study in connection with one job-situation only. No candidate can be found as a nominee for more than one position and likewise no candidate can be found in both the successful and unsuccessful groups. The statistical methods used for the comparison of the recommendations of successful candidates with those of their unsuccessful competitors rest upon the assumption that the data in the two groups are independent whereas the presence of members common to both groups would have introduced a degree of correlation.

It is important to note that all of the 58 job-situations were selected by a chance process and that none of the rejected job-situations was discarded for any reason other than that it had not been previously selected by chance. There was no special basis for selecting either the retained or rejected job-situations, and in neither operation was bias involved. All of the job-situations available under the requirements of the statistical methods employed were retained for use in the comparisons to be made.

Research of this type is usually carried on in order to discover whether a certain relationship is true in general. Whether the relationship is true in particular is of interest because it throws light on the larger question of whether it is true in general. Where mass data are involved, making the connection between the particular case and the general situation is a matter of statistical inference. A definite hypothesis about the population or

the condition in general is evaluated, i.e., accepted or rejected, in the light of observed findings for a sample drawn from the population. To make this evaluation the sample must be secured by an established procedure, the usual procedure being designed to secure a random sample. When, however, the investigator does not have a random sample but instead has all of the cases available for study of the particular question at hand, as is the case in this research, it is necessary to assume a hypothetical population of which the cases available for study may be considered a random sample. Then generalization is made from the groups of cases studied to the hypothetical population. The usefulness of the conclusion regarding the hypothesis depends upon the character of the hypothetical population, especially upon the degree of its similarity to existing populations.

Such a hypothetical population for this study could be thought of as being composed of a very large number of candidates similar to the candidates of the group studied, for whom recommendations were written by persons writing similarly to those who wrote the recom-

mendations studied, who were nominated for positions similar to those of the 58 job-situations studied, and who were divided into the categories successful and unsuccessful by employers activated by motives similar to the motives of the employers of the job-situations studied. Hypotheses about this defined population can be tested against the findings for the candidates of the 58 job-situations. For example, the hypothesis that there is, in general, no difference between the recommendations of successful candidates and those of their unsuccessful competitors with respect to recommendation quality can be tested and accepted or rejected. The implications for other populations of candidates for teaching positions depends upon the similarity of those populations to the defined hypothetical population. This again is a matter of judgment and is for the reader to determine. It is the author's opinion that conclusions made with reference to the hypothetical population here described have a substantial degree of validity for candidates for teaching positions in general.

## CHAPTER 3

### THE PROCEDURE FOR SECURING THE DATA FROM THE RECOMMENDATIONS

**M**OST of the recommendations studied were written in response to the following instructions taken from the form used for requesting recommendations provided by the Office of Placement Service:

"Please write on this form your estimate of the registrant whose name appears above and return the form directly to the Office of Placement Service. What you write may be sent by the Office to prospective employers. If you wish to state anything for the guidance of the Office alone, please put it on the back of this form.

"The Office desires to have as registrants not only present graduate students of Teachers College but men and women who have successfully completed graduate work at Teachers College and who by training and experience are qualified for positions of responsibility.\*

"How do you rate this registrant's intelligence and personality? Please state what you know of the registrant's accomplishment as a student; as a worker in a specific position; and his probable future success.

"\* Only the well qualified should be recommended for positions. A statement of the Office's policy and practice will be sent upon request."

A written recommendation is a more or less extended declaration by the writer in which he relates facts as he knows them and expresses his judgment concerning the candidate and his qualifications for a specified kind of teaching position. It appears as a series of sentences, but for purposes of this study, it might better be thought of as a series of statements about the candidate's qualifications. Clearly one sentence may embody many such statements. For example, "Miss — has a very pleasing personality, is open, frank, and honest." This

sentence represents four statements of evaluation of the candidate. On the other hand, one statement may be spread over many sentences. For example, "Among the many instances of his success here I might mention his taking complete charge of a large intermediate algebra class of 39 pupils in the second semester. He had assisted with this class the first semester. The work during the second semester was entirely under his supervision." This is essentially one statement about the general character of the candidate's classroom teaching spread over three sentences. There are many aspects of the candidate's qualifications, personal and otherwise, that may be commented upon. Later in this chapter a detailed list of the possibilities will be presented in the form of an Inventory.

Recommendation quality is the characteristic studied in this research. The term is used to refer to an estimate of the enthusiasm with which the candidate is recommended made upon the basis of the favorableness of the modifying terms employed by the writer to describe the candidate's qualifications. The author is thoroughly aware of the fact that favorableness of modifying terms employed is not the only basis for estimating enthusiasm of recommendation, nor is he inclined to argue that it is the best basis. It is an acceptable basis, however, and, as will be shown later, an adequate basis for the statistical treatment of the data. Undoubtedly individual writers of recommendations vary in their tendency to use modifiers and also in the liberality with which they use superlatives, but the individual departures from the usual

in the pooling process of the statistical method tend to cancel each other so that the effect on the end result is more or less random and probably slight. There is no reason to believe that the atypical writer has more often written for either success group. It is reasonable to suppose that a given professor might be lavish or sparing with superlatives. Although the estimates of the candidates of the professor's department might thus be affected, the effect would not be partial to either successful or unsuccessful candidates, and, therefore, the comparison of the two groups would not be affected.

The author is thoroughly aware of the fact that recommendation quality is not the only constituent of recommendation excellence that bears investigation. Other characteristics of recommendations seem to offer promising possibilities. It is very likely that many writers place their primary discrimination among those for whom their recommendations are written upon other bases than the use of modifying terms. In all likelihood the selection of qualifications commented upon is equally important. The author thinks of recommendation quality as defined as only one of many acceptable constituents of recommendation excellence worth studying.

The process of analyzing recommendations and securing an estimate of recommendation quality as a score, in general, consisted of three parts. First, the recommendation was divided into a series of statements about separate subjects. The statements were classified by referring them to an Inventory (see pages 14 ff.). Second, each statement was rated for quality on the basis of the favorableness of the modifying terms found in the statement. The rating of modifying terms was accomplished by referring them to a Quality Rating Scale (see pages 27 ff.).

Third, the ratings for individual statements were averaged to obtain a score for the recommendation.

Two types of material are included by writers in recommendations: (1) opinions and facts which can be rated on the basis indicated for all types of positions and employers, which will be called evaluations, and (2) facts and opinions which cannot be rated uniformly but must be rated in relation to a given position and a given employer, which will be called non-ratable information. Opinions predominate in the first type of material, factual statements in the second. Evaluations are illustrated by the comment, "He is very cooperative." This statement evaluates the candidate by attributing to him a certain personality trait, cooperativeness, and a certain degree of that trait, the degree expressed by the word *very*. Irrespective of the type of school, the subjects to be taught, the kind of community, and the predilections of the employer, such a statement can be rated as being in the candidate's favor to the degree represented by the modifier *very*. The rating does not depend upon the position for which the individual is a candidate.

Non-ratable material, on the other hand, cannot be rated except in relation to a specific position. Consider a statement that the candidate is a major in mathematics. Whether the statement is in the candidate's favor depends upon the subject to be taught. Or take an opinion that the candidate will do his best work in an urban community. Again the rating depends upon the type of community in which the position is located. No attempt was made to rate statements of the second type for several reasons. Factual statements, which form the bulk of the material, usually repeat information which is more complete and dependable

in the biographical section of the credentials. It is believed that most employers refer to the biographical section for such information. Approximate equalization of the effects of the more important of these factors is provided for in the treatment of extra-recommendation factors described in Chapter 5. In addition factual statements of the kind referred to here are not expressed in degree and do not contain modifying terms. But the principal argument against including the second type of material in the estimate of recommendation quality was that the rating would have had to be in relation to the position in question, whereas it was absolutely necessary, while the recommendations were being rated, to keep study of the recommendations and study of the job-situations separate. If the position and the candidates for it had been studied at the same time, it would have been impossible for the author, who did the rating, to have avoided knowing who was the successful candidate and thereby becoming prejudiced in the rating.

In terms of procedure the principal requirements of the analysis of the recommendations called for:

1. Identification and recording of the job-situation, the candidate, and the recommendation in a manner that would keep the identity of the successful candidate unknown to the analyzer.
2. Recording of the date the recommendation was written.
3. Classification of each individual statement by the writer of the recommendation as to the subject of the comment.
4. Rating of each evaluation for quality of comment.
5. Recording of the classification of each statement with the item number from the Inventory.
6. Recording of the estimate of quality or quality rating for each evaluation.

In order to make the procedure con-

sistent from one recommendation to another, an Inventory of possible subjects of comment by writers of recommendations, a List of Equivalent Trait-Names and Phrases, and a Quality Rating Scale were constructed to be used as guides by the author. To fulfill its function the Inventory needed to include classifications describing all of the personal characteristics or traits of a candidate in addition to classifications for the variety of qualifications peculiar to the vocation of teaching as well as classifications for non-ratable information. The Inventory needed to meet these four criteria:

1. The list of items should be complete so that there would be a classification for every recommendation statement found.
2. Overlapping among items should be reduced to a minimum so that a recommendation statement would clearly belong in one classification and clearly not belong in any other.
3. Appropriate headings should be chosen and each item properly located under the headings (so that, if undertaken, study of the relation between scores by headings and placement success might be meaningful).
4. The items should be defined in terms commonly found in recommendations in order to retain as much as possible of the original character of the data.

In the construction of the section on Personal Characteristics it was recognized immediately that in any absolute sense it is impossible to avoid overlapping of meaning. To most students of human personality, each of the 17,953 trait-names listed by Allport and Odbert (1, p. vi)<sup>1</sup> represents a unique, distinct, and definite facet of human character not wholly like any other one of the entire list. Even this list is replete with overlapping of meaning although there is no

<sup>1</sup>The first number indicates the reference as listed in the Bibliography; the second number indicates the page cited.

true duplication of meaning. If then a list of 63 trait-names and phrases descriptive of personal characteristics is presented, necessarily there is appreciable overlapping. The practical research problem at this point was to construct a list which was short enough to be useful, and which, given the number of traits included, involved the least amount of overlapping of meaning in the items. A minimum requirement was the elimination of overlapping which went so far as to become duplication of meaning.

In this connection it should be clearly appreciated that the definition used in the Inventory to describe an aspect of a candidate's qualifications is only a partial definition of the thing described. The only complete definition would consist of the Inventory item plus the interpretations that have actually been used by the author in analyzing the recommendations. Indeed, it is even possible that an item which has been poorly defined in the Inventory may yet be highly effective in the way it has operated as a guide in the analysis of the recommendations.

It was essential that the Inventory items be defined in terms commonly employed by writers of recommendations. Thus, *ascendance* and *extroversion* might very well have been used as classifications under Personal Characteristics except that candidates are almost never described in such terms in recommendations. Among 1035 recommendations the author cannot remember a single use of *ascendance*, *extroversion*, or similar psychological terms. Translating a recommendation statement into such terms would interpose an additional step between the data in the form in which it was found and the data as recorded. It seemed advisable to avoid that additional separation.

Because all aspects of personality have important bearing on the effectiveness of the teacher, the section on Personal Characteristics attempts to present, within the limits imposed by the employment of commonly used trait-names, an outline for a complete description of an individual. It is hoped that the trait-names selected represent definable and delineable traits or personal characteristics which are relatively free from overlapping of meaning.

The construction of the Inventory involved five inter-related operations that were interwoven in the actual process. First, an exhaustive list of trait-names, phrases, etc., representing traits and qualifications had to be prepared. Second, it was necessary to reduce this list of trait-names and phrases to a list of traits and qualifications, i.e., to decide which trait-names, phrases, etc. were variant designations for the same trait or qualification and which groups of designations represented different traits or qualifications. This involved the difficult task of deciding whether a described quality was to be considered a trait or qualification, or whether it was merely to be considered an aspect of another quality which was the trait or qualification. Incidental to the second operation was the third, the selection of a designation to represent the trait or qualification. The fourth operation was the selection of headings, and the fifth, the location of items under the proper headings.

In the beginning, scores of recommendations were read to discover, in general, what traits and qualifications were commented upon by writers of recommendations. Then each recommendation was divided into statements about single items of the candidate's qualifications, and the essence of the statement recorded on a separate card. At first no attempt

was made to group together words or phrases referring to the same item, but a new word or phrase was assumed for the time being to represent an additional item. The dictionary and Roget's Thesaurus were consulted to provide other words and phrases, frequently synonyms and antonyms, for the same item.

Then the literature on the subject of traits related to teaching success was reviewed. The different types of studies may be classified on a variety of bases, each basis being with respect to a different aspect of the study. Some investigators studied traits related to teaching success; others, traits related to failure. Some attempted to predict success or failure; others analyzed status already achieved. Some studies were confined to personality traits; others dealt with all kinds of qualifications, personal and otherwise. In some studies the investigation of traits was only part of a broader inquiry. Some investigators used a checklist which suggested the trait-names to be appraised; others allowed a free response to a general question. In some studies the respondents were instructed to rank the traits in order of importance; in others they were asked merely to indicate which traits were considered important. The purpose of most studies was to establish the relative importance of traits, which could be accomplished by ranking traits either according to the percentage of responses in which the trait was considered important, or by averaging the ranks given to the trait. The purpose of other studies was merely to prepare a list of traits considered important by a given body of opinion. Obviously, the purpose and the method of collection of data determined the type of statistical procedure used. Administrators, supervisors, principals, and college teachers of education were the people usually polled, although

there are several studies of student opinion. Investigations of the traits listed in letters of reference forms used by placement offices and school systems were also reviewed.

Individual trait-names from these lists were found to duplicate trait-names already secured from the perusal of recommendations. None of the lists as a whole, however, could be used because each had one shortcoming or another with respect to use in the investigation reported here. The classifications of many of the lists show considerable amounts of overlapping among the items. Some of the lists include large headings only. Personality, for instance, was listed as one item. In dealing with personal characteristics, apparently none of these authors had conceived of the more significant problem as the collection of facts about traits rather than trait-names.

Several scales for the measurement of teaching efficiency have been constructed. These were reviewed in order to check the completeness of the list of trait-names secured from the perusal of the recommendations. A teacher rating scale may be defined as a list of traits which when rated yields a score which is related to teaching success. This list of traits is not necessarily an inventory of all aspects of an individual related to teaching success nor of all aspects of a candidate likely to be commented upon in recommendations. Of recent scales, the Torgerson Diagnostic Teacher Rating Scale of Instructional Activities (18), for instance, is confined to classroom teaching, which is but one aspect of the many commented upon in recommendations. The Almy-Sorenson Rating Scale for Teachers (3) on the other hand is confined to personality traits. An impression gained from most scales is that the compromise with the practical necessity of a short

list of traits is considerable. As a result many scales include trait-names that are not sub-divided enough to reach the point where traits, as opposed to families of traits, are represented. A. S. Barr, referring to the measurement of teaching ability, aptly summarized the situation when he said, "If we employ the qualities approach, there is little agreement among workers relative to the qualities essential to success in teaching, the amounts of these qualities necessary for success, the relative importance of the several qualities considered essential to success, and how best to define these qualities" (5, p. 182). The word *qualities* as used by Barr appears to have the same meaning as *traits* in the present study.

Studies have also been made of the content of recommendations. At the University of Oregon 308 recommendations written for 56 students "were carefully analyzed, and a check kept on the qualities attributed to the applicant, and of the degree to which the candidate was assumed to possess these qualities" by Almack (2, p. 33). At least 57 different qualities were found but the complete list is not reported. Evidently there was no attempt to deal with traits as distinct from trait-names.

Jones (12) studied the traits found in 500 recommendations written for seniors at Oberlin College by members of the faculty, and secured a list of 80 trait-names which were found 5 or more times in the recommendations. Although this list was secured empirically from a study of recommendations, it is really a list of trait-names and not a list of traits. *Diligent* and *hard-working*, for example, are separate items.

Dozier (10) analyzed 1132 recommendations and found 805 trait-names. She did not attempt to construct an inventory by any process of reducing over-

lapping among the 805 trait-names, but instead drew up an outline (or inventory) which she believed would include all of the qualities found. To quote, "It was not thought desirable in this study to condense the number of qualities by combining and construing many of them as synonyms. The following outline presents a classification of all qualities listed in the recommendations. . . ." (10, pp. 326-327). In the opinion of the author the outline is much too sketchy for use in this study.

A very interesting list of vivid adjectives descriptive of personality was compiled by Sheppard (16, p. 446) as a result of several years of placement experience, but the list was not intended to be a complete inventory.

Vick (19) studied the traits considered to be the most influential in recommendations by polling the opinion of 252 school administrators in Illinois from whom he received 160 replies giving their reaction to the relative importance of the 45 traits of a scale prepared by Boyce (6, p. 44).

Weidemann studied 1250 recommendations in order to answer three questions, among them being this, "What is a general plan of classification of the content of the letters of recommendation?" (20, p. 69). From the brief description of the method of analyzing the recommendations and of constructing the general plan of classification given in the article it appears that the procedure used by the author must have been similar to that of Weidemann. With his investigation as a background, Weidemann constructed a New Type Letter of Recommendation, essentially a rating device or score card, which contains an inventory which has much to recommend it (20, pp. 88-92).

As an inventory of personal traits the Master List of Teachers' Traits produced

by the Commonwealth Teacher-Training Study deserves special mention because of the thorough and painstaking work that went into its preparation (8, p. 18). A long list of trait-names defined by descriptive actions was secured by the investigators through personal interviews with 97 members of the profession. Twenty-one judges then classified the descriptive actions under 83 traits (or trait-names). This list was arbitrarily reduced in number by combining similar trait-names until 25 traits remained (8, pp. 14-19 & 51-76). "The list of 83 traits was accordingly telescoped by grouping the items in families. Because it was known that 25 traits could be used to advantage in teacher-training institutions, the number of families was arbitrarily fixed at 25" (8, p. 63). This process of reducing the list of trait-names by combining those with similar meaning is the one used by the author but in the Commonwealth Study the process was continued until the arbitrary number of 25 traits was reached, whereas, the author had no arbitrary number of final traits fixed in advance. Ordinarily the number of traits which finally survive such a process depends upon the amount of similarity demanded of the trait-names to be combined. That being the case, selection of an arbitrary number of final traits is one way of determining the amount of similarity in trait-names to be used as a criterion; and if the criterion is kept uniform throughout the process, as seems to have been the case in the Commonwealth Study, it is as safe as well as legitimate method. But it is to be doubted if 25 approximates the best number to serve in securing a list of traits for analyzing recommendations. Neither the list of 25 traits nor the list of 83 traits seemed completely satisfactory for the investigation contemplated in this research. The In-

ventory constructed for this study contains traits not to be found in either list and divides into separate traits certain of the traits of the Commonwealth Study which in the opinion of the author contain too much overlapping. *Experimental attitude*, for example, is a trait not to be found in the Commonwealth Study list. The latter classifies *interest in the community*, *interest in the profession*, and *interest in pupils* all under one heading, *breadth of interest*. In the Inventory a distinction is made between *tact* and *sympathetic nature*, two traits put under the same heading in the Commonwealth Study list. In the latter *intelligence* and *originality* are under separate classifications while in the Inventory both are classified under *intellectual ability*. Other examples might be cited. Since it was constructed for a different purpose, namely, to provide direction for emphasis in teacher training, it is not surprising that the Commonwealth Study list was not found exactly suited to the needs of this study.

The Commission on Educational Leadership (14, pp. 290-291) studied recommendations written for 105 superintendents considered successful by 264 school board members who wrote the recommendations. It was found possible to tabulate the characteristics mentioned 8 or more times under 30 headings. As the result of an empirical study, the frequency list of characteristics reported is valuable, but the list does not present a satisfactory inventory. *Good disciplinarian* and *Firm when necessary*, for example, are separate items.

Morrisett (13) studied 1851 letters of recommendation written for candidates for high school teaching positions by members of the profession and laymen from various sections of the country in order to discover what information was

contained in the recommendations written by four classes of writers: teachers of education, college subject matter teachers, principals and superintendents, and laymen. Each item was classified according to the Master List of Teachers' Traits produced by the Commonwealth Study (8, p. 18) and a frequency count reported for the letters of the four classes of writers.

An excellent inventory is contained in an outline of a proposed brochure on the selection of teachers by Jarvie and Prescott of the Commission on Teacher Education (4). The authors must have had in mind an inventory in the sense that the word is used in this study and must have been cognizant of the necessity of making it complete. The items are not phrased in the terms employed by writers of recommendations, however, and items of that type are not suited to this study as it was conceived. One of the subsections (4, p. 2) is given here as an example:

- I. Personal and Social Characteristics.
  - B. Organization of the personality.
    - 1. Basic values the individual is seeking in life.
    - 2. The consistency of these values with each other.
    - 3. The consistency of these values with cultural reality.

Writers of recommendations do not often describe individuals the way psychologists or philosophers do.

Another excellent inventory is by Cady and Katsuranis (7), who elaborated a "working theory of personality" and prepared a list of traits for the evaluation of the growth of students of New College of Teachers College. It is evident that the authors had in mind an inventory in the sense that the word is used in this study and the necessity of making the list of traits complete. Cady and Katsu-

ranis seemed to be particularly cognizant of the importance of having personality items represent traits as they might be defined psychologically. Inasmuch as it was designed for a different purpose, some of the items are not pertinent for the evaluation of recommendations.

Throughout this process additional recommendations were constantly being studied. From these five sources—recommendations, the dictionary and thesaurus, studies of traits related to teaching success, scales for the measurement of teaching efficiency, and other inventories such as that of Cady and Katsuranis—a considerable list of words and phrases describing items of a candidate's qualifications was built up. Then these words and phrases, each on an individual card, were grouped so that all words and phrases which appeared to identify the same item were placed together. Then the item was named, a definition of the item was constructed if that seemed necessary, headings were decided upon, and the location of the item under a heading was determined. The principal strength of the author's Inventory is that it is so integrally related to recommendations. It was designed for the specific purpose of aiding in the analysis of recommendations and its language is consonant with that purpose. The four criteria outlined on page 9 were constantly kept in mind during its construction. The Inventory is divided into two parts to correspond to the two types of comment to be found in recommendations.

#### THE INVENTORY<sup>2</sup>

##### *Part One—Non-Ratable Information*

- 1. Type of training program undergone.
- 2. Length of training program undergone.

<sup>2</sup>In the original planning of the study the possibility of investigating the relation between several characteristics of recommendations and placement success was contemplated. Conse-

3. Teaching field in which prepared and/or preferred to work.
4. Degree or certification status.
5. Age or grade group prepared to teach and/or preferred to teach.
6. Type of community in which the candidate should work, in the opinion of the writer.
7. Type of school in which the candidate should work, in the opinion of the writer.
8. Favorable viewpoint held with respect to "progressive education."
9. Extreme viewpoint held with respect to political and social problems.
10. Middle viewpoint held with respect to political and social problems.
11. Teaching experience gained in a public secondary school or a training secondary school of a teacher training institution.
12. Teaching experience gained in a private secondary school of the academy type.
13. Teaching experience gained in a liberal arts college, teachers college, or university.
14. Teaching experience gained in a special school, such as a trade school or business college.
15. Length of teaching experience.
16. Place of teaching experience.
17. Subjects taught.
18. Age or grade group experienced in teaching.
19. Experience in the use of "progressive methods" or in a "progressive school."

### *Part Two—Evaluations*

#### **GENERAL**

20. General estimate of the candidate including reference to both general background and personality characteristics.
21. General background. A reference to everything except personality characteristics joined together in a general statement.

quently the analysis of the recommendations obtained other information than it is necessary to report here, and the Inventory contained additional items under the following headings:

1. Relation of the Writer to the Candidate.
2. Degree of Acquaintance of the Writer with the Candidate.
3. Degree of Acquaintance of the Writer with the Candidate's Teaching.

22. Variety of background. Not confined to professional experience.
23. Growth in training, experience, and general background.

#### **PERSONAL CHARACTERISTICS**

##### *A. General*

24. General Estimate—General estimate of the candidate's personality; general statement about the candidate as a person or about his personality.
25. Growth in Personality—Growth within the individual of personality traits of an implied favorable character.

##### *B. Abilities*

26. General Ability—Inclusive characterization, ability as a person. Does not refer exclusively to intellectual ability. Versatility.
27. Special Skill—Result of innate capacity properly trained, such as instrumental skill in music.

##### *C. Intellectual Characteristics*

28. Intellectual Ability—Innate power to deal intelligently with abstractions, to reason, to think, to solve problems, to comprehend, to understand, to meet novel situations.
29. Breadth of Intellectual Interests—Usually evidenced by possession of a wide variety of information such as comes from extensive reading to satisfy active intellectual curiosity.
30. Critical Habits of Thought—Quality of mind, thought pattern. Freedom from prejudices, emancipation from authoritarian thinking, disposition to withhold judgment or conclusions until new or different evidence or reasons are reviewed, inclination to accept and hold views critically.
31. Perspective in Thinking—Habit with regard to what is attended to. Practice of giving attention to both the broad outlines and the details in proportions appropriate to the situation.
32. Expression of Thought—In general, no differentiation being made between speaking and writing.
33. Oral Expression of Thought—Both in conversation and in public speaking.
34. Written Expression of Thought.

*D. Physical Characteristics*

- 35. Physical Health.
- 36. Physique—Body build permitting hard and continuous work at the occupation of teaching. Absence of defects. Not type of frame.

*E. Basic Emotional Characteristics*

- 37. Maturity—General impression created by the behavior. Not age as such.
- 38. Emotional Balance—Equability of behavior, even in times of stress, based upon innate stability, freedom from unfortunate experience, and good mental hygiene.
- 39. Enthusiasm—Individual attitude toward life. High morale. Interest in life.
- 40. Self-Confidence—Habit of depending upon oneself, especially in times of difficulty; based upon the estimate an individual habitually makes of himself, of his ability to meet problems and situations, and even of his capacity to withstand failure and its consequences.
- 41. Objective Intelligence—Ability to react intelligently, keeping personal emotional considerations from protruding into and influencing thinking. These considerations have the effect of reducing the intellectual ability of some individuals in certain situations.
- 42. Ability to Make Decisions—Habit of making decisions without an undue amount of suspended judgment.
- 43. Progressiveness—Attitude on the part of an individual towards himself which is conducive to growth. Includes the use in constructive ways of criticism, both positive and negative, and the desire for growth.

*F. Interests and Accomplishments*

- 44. Breadth of Interests—All kinds of interests not covered in other items.
- 45. Interest in Sports—Interest in athletic sports and games.
- 46. Esthetic Appreciation—Genuine interest in what the individual conceives to be beautiful. The latter need not be generally so accepted. Refers specifically to color, form, shape, design, and texture wherever found.
- 47. Appreciation of Music—Genuine delight in listening to music. Not meant

to specify any particular kind of music.

- 48. Travel—Quality and extent.

*G. Appearance*

- 49. General Appearance—Total effect of the person's physique, posture, bearing, dress, manner, and physical appearance.
- 50. Minor Aspect of Appearance—Refers to comment upon any one of the single features listed under General Appearance.
- 51. Statement that the candidate is a young man or young woman, regardless of the actual age.
- 52. Manliness—Appearance and bearing of the type associated with the more traditional stereotype for men.
- 53. Voice—Pleasantness or quality.

*H. Abilities Affecting Relation with Others*

- 54. Social Intelligence—Ability to apply native insight to situations involving personal factors and insight into personal factors as they affect situations.
- 55. Social Skill—Skill in dealing with people so as to obtain a favorable reaction as the result of deliberate intention.

*I. General Characteristics Displayed in Relation to Others*

- 56. Unselfishness—Patterns of behavior based upon an attitude toward the conflicting interests of self and others. It does not include behavior motivated by a desire for approbation.
- 57. Sympathetic Nature—Habit of recognizing and being charitable toward the shortcomings of others, based upon an attitude toward weakness and shortcomings.
- 58. Friendliness—Readiness with which an individual accords social acceptance easily to others.
- 59. Sense of Humor.
- 60. "Moral Courage"—Disposition on the part of an individual to be a leader for what he conceives to be ethically right in a conflict situation in spite of possible unpleasantness.

*J. Characteristics Affecting Face-to-Face Relationships*

- 61. Forcefulness—Personality that dominates, that is ascendant, that is forceful.
- 62. Self-Possession—Ability to display self-confidence in social situations, based

largely upon one's attitude toward his own adequacy in those situations.

63. Reserve—Habitual tendency to allow others to assume the dominant role in face-to-face situations. Unwillingness to become the center of attention.

*K. Characteristics Displayed in Relation to Others that Facilitate Understanding with Others*

64. Sincerity—Disposition on the part of an individual to be open and forthright in his relations with others.
65. Tact—Habitual practice of knowing about and attending to those small details which in any given situation will bring the least unfavorable reaction from other people. It does not include the sacrificing of principles.

*L. Characteristics Maintained in Relation to Others that Affect Joint Enterprises*

66. Impartiality—Habit of being impartial, and in matters of consequence not allowing mere personal acquaintance or prejudice to be an overruling factor.
67. Leadership—Ability to command the cooperation of others in enterprises upon the basis of their confidence in one's judgment, courage, and integrity, plus the ability to actually direct enterprises with those qualities.
68. Cooperativeness—Disposition to restrain for the welfare of the group impulses to command when circumstances seem to assign leadership to someone else or when authority resides in someone else, and to actively assist that person.
69. Loyalty—Disposition to cooperate with a leader or one in authority because it is believed to be an obligation of subordinates.
70. Dependability—Habit of persisting in the effort to discharge responsibilities regardless of the interest of the task.

*M. Characteristics of the Reactions of Others to the Candidate*

71. Social Acceptance—The degree to which an individual's whole life and conduct excites, in general, favorable reactions from other people.
72. Estimableness—Quality of behavior such as receives the esteem and regard of other people.

*N. Characteristics in Relation to Life in General*

73. Social Point of View—Orientation in thinking, thought pattern. Disposition to criticize from the viewpoint of the welfare of society; inclination to include social considerations when making decisions.
74. Humility—Individual attitude toward the larger aspects of life. Attitude engendered by certain philosophical beliefs as well as innate personal tendencies and experience.
75. Adaptability—Pattern of behavior which shows a willingness to attain ends by adjusting to circumstances rather than by trying to change the circumstances as a means to the end.
76. Service Point of View—Behavior actuated by the present conception of our culture that an individual has an obligation to serve his community.
77. Experimental Attitude—Inclination on the part of an individual to explore the possibilities of novel methods, and a willingness to test in experience the desirability of untried values.

*O. Characteristics in Relation to Work*

78. Ambition—Long term desires for advancement on the part of an individual usually translated into plans of action, which, however, are not always persisted in.
79. Industriousness—Personal habit of energetic and persistent application to tasks at hand regardless of how discouraging preliminary results may be.
80. Punctuality—Habit of strict adherence to time schedules and appointment hours.
81. Carefulness—Behavior patterns marked by thoroughness, high standards for accomplishment, and painstakingness.
82. Thrift.
83. Care in Financial Matters—Practice of meeting money obligations promptly without the necessity of pressure from others.

*P. Characteristics of the Personal Life*

84. Moral Character—Rigorous adherence to accepted ethical standards and incorruptibility in the face of temptation.
85. Reverence.

86. Refinement—Education with respect to the customs and manners of the people and disposition to abide by accepted practices. It includes clean-mindedness.

#### EXPERIENCE AND TRAINING

87. General estimate of both experience and training joined together.  
88. General estimate of both experience and training in the direction of extra-curricular activities.

#### PHILOSOPHY OF EDUCATION

89. General comment on the quality of the philosophy of education. (Such comment might seem worthless because of its highly subjective character; nevertheless, a statement that a candidate had an excellent philosophy of education might impress some readers even though the writer of the recommendation was unknown to the reader.)

#### TRAINING OR PREPARATION, IN GENERAL

90. General comment on the quality of the training or preparation, including comment on the general educational background.  
91. Variety of training.  
92. Possession of capabilities and potentialities for professional growth while in a position.  
93. Interest shown in professional preparation and/or improvement as a student.  
94. Development shown as a student. Refers to general development rather than development solely in subject matter mastery.  
95. Comment on a specific item of training or preparation not covered by other items of this section.  
96. Preparation in the theory of teaching and education, or in professional education, or in professional courses.  
97. Special training undergone. An example would be European study in the case of a candidate for a position to teach a foreign language.  
98. Training of special abilities and/or skills related to the teaching field in which the position was open.  
99. Interest in developing special abilities and/or skills related to the teaching field in which the position was open.  
100. Training or preparation in the direction of extra-curricular activities either

from course work or participation as a student.

101. Interest in extra-curricular activities as a student.

#### KNOWLEDGE OF SUBJECT MATTER, SKILLS, AND ABILITIES

102. General estimate of general scholarship or of work as a student. Not confined to one field or one professor.  
103. Interest on the part of a student in his studies or courses, in general.  
104. Wide learning of the candidate.  
105. Interest in a great variety of subjects and in wide learning in general.  
106. Knowledge of methods of teaching.  
107. Interest in educational problems from a theoretical viewpoint.  
108. Possession of demonstrated ability in extra-curricular activities.  
109. Research done by the candidate and/or ability to do research.  
110. Contributions to professional literature.  
111. Interest in research.  
112. Scholarship, skill, and ability in the teaching field in which the position was open.

NOTE: When the position involved teaching subjects in more than one field, a reference to any one of the fields in which the position was open was counted. In the case of a position in science or general science, training in botany, zoology, geology, chemistry, physics, or general science was counted as training in the field in which the position was open. In the case of a position in social science, training in civics, citizenship, Problems of Democracy, history, sociology, economics, or geography was counted as training in the field in which the position was open.

113. Scholarship, skill, and ability in some other field than the one in which the position was open.  
114. Scholarship or work as a student in one course or under one professor in the teaching field in which the position was open.  
115. Scholarship or work as a student in one course or under one professor in some other field than the one in which the position was open.  
116. Quality of specific items of work, or specific learnings, abilities, or skills in the teaching field in which the position was open.  
117. Quality of specific items of work, or specific learnings, abilities, or skills in

some other field than the one in which the position was open.

118. Candidate's grades in the teaching field in which the position was open.
119. Candidate's grades in some other field than the one in which the position was open.
120. Possession of special ability related to the work of the teaching field in which the position was open.
121. Possession of special ability related to the work of some other field than the one in which the position was open.
122. Interest in the teaching field in which the position was open.
123. Interest in some other field than the one in which the position was open.
124. Interest in the work of one class or under one professor in the teaching field in which the position was open.
125. Interest in the work of one class or under one professor in some other field than the one in which the position was open.
126. Interest in the literature of the teaching field in which the position was open.
127. Interest in the literature of some other field than the one in which the position was open.

#### OCCUPATIONAL AND PROFESSIONAL ATTITUDES AND RELATIONSHIPS MAINTAINED

128. General comment, such as professional interest.
129. Interest in teaching as such.
130. Interest in in-service improvement.
131. Interest in the profession as an occupational group.
132. Activity in professional organizations.
133. Interest and willingness to work for the welfare of the institution by which employed.
134. Interest in extra-curricular activities and willingness to help supervise and direct them.
135. Relationships of cooperation and respect maintained in general.
136. Relationships of cooperation and respect maintained with colleagues.
137. Relationships of cooperation and respect maintained with supervisors.
138. Relationships of cooperation and respect maintained with administrators.
139. Relationships of cooperation and respect maintained with parents and toward their participation in the school program.

#### ATTITUDES TOWARDS AND RELATIONSHIPS MAINTAINED WITH COMMUNITIES

140. General comment on the attitude toward or the relationship maintained with the community, community interests, or community affairs.
141. Attitude toward or relationship maintained with respect to the duties of a teacher as a citizen.
142. Attitude toward or relationship maintained with respect to the obligations of a teacher with regard to customs peculiar to the community.
143. Attitude toward or relationship maintained with respect to the expectations of the community with regard to church activity.

#### SUCCESS OF EXPERIENCE AS A TEACHER, NOT REFERRING SPECIFICALLY TO CLASSROOM TEACHING

144. General estimate of the experience or of the success of the candidate as a teacher.
145. Wide variety of professional experience.
146. Comment on amount or location of experience which carries with it a definitely favorable connotation.
147. Quality of specific items of work or of special aspects of the experience.
148. Special abilities related to the teaching field in which the position was open demonstrated while in a teaching position.
149. Improvement shown while in a teaching position.
150. Experience with extra-curricular and/or extra-position activities.
151. Interest shown in extra-curricular and/or extra-position activities.
152. Experience in student guidance and counseling.
153. Experience in the supervision of teachers.
154. Experience in administration.
155. Experience in teacher training.
156. Experience in practice teaching as a student teacher.

The content, itself, of the following statements, indicative of the degree of success of experience, suggests the quality rating that is appropriate. The statements are listed in the Inventory because their content is classifiable. Normally a

statement was assigned the quality rating given, but the rating was raised or lowered according to the modifying terms found and the context:

- |  |   |   |
|--|---|---|
| 157. Candidate received a contract for the next year.  | 2 | 175. Success in one aspect of classroom teaching.   |
| 158. School hopes that the candidate will remain on its staff.   | 2 | 176. Perspective with regard to the aims of education and/or the aims of the particular course taught.                              |
| 159. Candidate may return to the position.   | 2 | 177. Influence on pupils.   |
| 160. Candidate had been given a leave of absence.  | 2 | 178. Understanding of young people.   |
| 161. School would be glad to have the candidate who left return.   | 2 | 179. Teaching that indicates understanding of teaching methods and techniques.  |
| 162. School regrets or would regret losing the candidate, or does or would consider his leaving a loss.  | 2 | 180. Personal interest in students.   |
| 163. Candidate who had been teaching in a temporary post would have been employed if a vacancy had developed.  | 2 | 181. Habit of thorough and regular preparation of classroom work.   |
| 164. Candidate would be employed or continued in employment if there were a vacancy or if finances permitted.  | 2 | 182. Ability to maintain control of a class ("discipline").   |
| 165. Candidate left voluntarily to accept another position.  | 3 | 183. Organization of teaching materials.  |
| 166. Candidate left voluntarily to study.  | 3 | 184. Appearance and/or manner before a class or with pupils.  |
| 167. Candidate left his position of his own accord.  | 4 | 185. Habit of attention to individual needs of pupils.  |
| 168. Statement that seems satisfactory as to why the candidate resigned from his position.   | 4 | 186. Willingness to do extra work to give assistance to individual pupils.  |
| 169. Suggestion of ways in which the candidate might improve.  | 5 | 187. Habit of taking pains to motivate the work of pupils and/or the ability to do so. Includes getting a class to work diligently. |
| 170. Statement that arouses suspicion as to why the candidate resigned from his position.  | 6 | 188. Skill in exposition and presentation. Ability to translate knowledge of subject matter into terms useful in the classroom.     |
| 171. Statement that the candidate taught one year in a position, with no further explanation.  | 6 | 189. Ability to secure response from pupils and hold their interest. Includes ability to make interesting presentations.            |
| 172. Statement that the candidate had had experience when it is evident that the writer is in a position to evaluate that experience but refrains from doing so. | 6 | 190. Skill in leading discussions and/or asking questions.  |
| 173. Statement that the candidate failed, perhaps, with reasons being given.   | 7 | 191. Acceptance of the teacher by the pupils.   |

TECHNICAL SKILL IN TEACHING AS EXHIBITED  
IN THE CLASSROOM IRRESPECTIVE OF  
KNOWLEDGE OF SUBJECT MATTER

174. General estimate of classroom teaching.

GENERAL ESTIMATE AND RECOMMENDATION  
AND/OR PREDICTION OF THE DEGREE OF  
SUCCESS THAT WILL BE ACHIEVED

195. Recommendation for a position to teach in a secondary school, either public or private.
196. Recommendation as a young or beginning teacher for a position in a secondary school, either public or private.
197. Recommendation for a teaching position, but without specific recommenda-

- tion for a position in a secondary school.
198. Recommendation as a young or beginning teacher for a position, but without specific recommendation for a position in a secondary school.
199. Recommendation for a teaching position in other than a secondary school, if from the context it is judged that the writer was unaware that the candidate would be interested in a secondary school position.
200. Recommendation as a young or beginning teacher for a position in other than a secondary school, if from the context it is judged that the writer was unaware that the candidate would be interested in a secondary school position.
201. Recommendation for a secondary school teaching position, but also for a position in administration or college teaching as well.
202. Recommendation for a secondary school teaching position, and as a young or beginning candidate for a position in administration or college teaching.
203. Recommendation for a secondary school position as a young or beginning teacher, and also for a position in administration or college teaching as a young or beginning candidate.

The content, itself, of the following statements, indicative of the general estimate made of the candidate, suggests the quality rating that is appropriate. The statements are listed in the Inventory because their content is classifiable. Normally a statement was assigned the quality rating given, but the rating was raised or lowered according to the modifying terms found and the context:

204. Writer would be glad or very glad to employ the candidate. 2
205. Writer has employed the candidate and that fact indicates how the candidate is regarded. 2
206. Candidate is qualified for supervision. 2
207. Candidate is qualified for teacher training. 2
208. Candidate is also qualified for guidance duties. 2
209. Candidate is also qualified to assist in administration. 2
210. Writer would be willing to employ the candidate. 3

As an adjunct to the Inventory a List of Equivalent Trait-Names and Phrases was constructed. During the construction of the section of the Inventory dealing with personality traits, each trait-name or phrase encountered was written on a separate card. Then by sorting cards, the trait-names and phrases were grouped into traits. One of the trait-names was chosen to represent the trait. All of the trait-names and phrases were then listed alphabetically with their Inventory equivalents.

#### LIST OF EQUIVALENT TRAIT-NAMES AND PHRASES

NOTE: A number following the trait-name or phrase indicates that it appears in the Inventory as the item of the number given.

#### A

Ability—General Ability  
Ability to get along with people—Social Acceptance  
Ability to make decisions—42  
Accepts responsibility—Leadership  
Accomplished(ness)—General Ability  
Accuracy—Carefulness  
Activeness—Forcefulness  
Acumen—Intellectual Ability  
Acuteness—Intellectual Ability  
Adaptability—75  
Address—General Appearance  
Adjustable(ness)—Adaptability  
Administrative ability—Leadership  
Admirableness—Estimableness  
Affableness—Friendliness  
Aggressiveness—Forcefulness  
Agreeableness—Social Acceptance  
Alertness—Enthusiasm  
Aliveness—Enthusiasm  
All-round person—General Estimate  
Ambition—78  
Amiability—Social Acceptance  
Amicableness—Friendliness  
Analytical(ness)—Intellectual Ability

Appearance—General Appearance  
 Application to work—Industriousness  
 Appreciativeness—Humility  
 Approachableness—Social Skill  
 Ardentness—Enthusiasm  
 Articulateness—Oral Expression of Thought  
 Aspiration—Ambition  
 Assiduousness—Industriousness  
 Assurance—Self-Possession  
 Astuteness—Intellectual Ability  
 Athletic interests—Interest in Sports  
 Attainments—General Ability  
 Attentiveness—Carefulness  
 Attitude toward criticism—Progressiveness  
 Attitude toward moral and religious life—  
 Moral Character  
 Attitude toward self-improvement—Progress-  
 siveness  
 Attitude toward suggestions—Progressiveness  
 Attractive personality—Social Acceptance  
 Attractive personally—General Appearance  
 Attractiveness—General Appearance  
 Appreciation of music—47  
 Appreciation of art—Esthetic Appreciation  
 Artistic ability—Special Skill

## B

Balance in thought—Emotional Balance  
 Bearing—Appearance, Minor  
 Beauty—Appearance, Minor  
 Body build—Physique  
 Breadth—Breadth of Interests  
 Breadth of interests—44  
 Breadth of reading—Breadth of Intellectual  
 Interests  
 Breadth of information—Breadth of Intel-  
 lectual Interests  
 Breadth of intellectual interests—29  
 Breeding—Refinement  
 Brightness—Intellectual Ability  
 Brilliantness—Intellectual Ability  
 Broad-mindedness—Critical Habits of  
 Thought  
 Build—Physique  
 Buoyancy—Emotional Balance  
 Businesslikeness—Carefulness

## C

Calmness—Self-Possession  
 Candidness—Sincerity  
 Capability—General Ability  
 Care in financial matters—83  
 Care of property—Carefulness  
 Carefulness—81  
 Carriage of the body—Appearance, Minor

Character—Moral Character  
 Charitableness—Unselfishness  
 Charm—Social Skill  
 Cheerfulness—Emotional Balance  
 Chivalrousness—Refinement  
 Clarity of expression—Expression of Thought  
 Clean speech—Refinement  
 Clean-cut(ness)—Moral Character  
 Clear-cutness—Sincerity  
 Cleverness—General Ability  
 Common sense—Social Intelligence  
 Companionableness—Friendliness  
 Competency—General Ability  
 Concentration—Industriousness  
 Conduct—General Estimate  
 Confidentness—Self-Confidence  
 Congeniality—Social Acceptance  
 Conscientious worker—Industriousness  
 Conscientiousness—Sincerity  
 Considerateness—Unselfishness  
 Consistent worker—Industriousness  
 Conventionality—Refinement  
 Conversation—Oral Expression of Thought  
 Cooperativeness—68  
 Cooperativeness without sacrificing the right  
 to hold a personal opinion—Critical  
 Habits of Thought  
 Cordialness—Social Skill  
 Courage of convictions—"Moral Courage"  
 Courtesy—Refinement  
 Creative imagination—Intellectual Ability  
 Creativeness—Intellectual Ability  
 Critical habits of thought—30  
 Critical thinking—Critical Habits of Thought  
 Cultural background—Refinement  
 Current events, acquaintance with—Breadth  
 of Intellectual Interests

## D

Debts, payment of—Care in Financial Mat-  
 ters  
 Decisions, ability to make—42  
 Delightfulness—Social Acceptance  
 Democratic(ness)—Friendliness  
 Dependability—70  
 Determinedness—Industriousness  
 Dignity—Self-Possession  
 Diligence—Industriousness  
 Directness—Sincerity  
 Diplomatic(ness)—Tact  
 Discernment—Social Intelligence  
 Discretion—Social Intelligence  
 Discrimination—Social Intelligence  
 Discrimination between ends and means—  
 Perspective in Thinking

Discrimination between important and unimportant elements—Perspective in Thinking  
 Discrimination between total plan and details—Perspective in Thinking  
 Dispassionateness—Objective Intelligence  
 Disposition—Emotional Balance  
 Dress—Appearance, Minor  
 Drive—Industriousness  
 Dutifulness—Loyalty  
 Dynamic(ness)—Forcefulness

## E

Eagerness—Enthusiasm  
 Earnest worker—Industriousness  
 Earnestness—Sincerity  
 Easy to get along with—Social Acceptance  
 Effective personality—Leadership  
 Efficiency—General Ability  
 Effort—Industriousness  
 Emotional balance—38  
 Emotional stability—Emotional Balance  
 Endeavor—Industriousness  
 Energy—Industriousness  
 Engagingness—Social Acceptance  
 Enterprise—Industriousness  
 Enthusiasm—39  
 Eruditeness—Breadth of Intellectual Interests  
 Estimableness—72  
 Esthetic appreciation—46  
 Even temper—Emotional Balance  
 Exactness—Carefulness  
 Executive ability—Leadership  
 Expansiveness—Friendliness  
 Experimental attitude—77  
 Experimental outlook—Experimental Attitude  
 Expresses himself well—Expression of Thought  
 Expression of thought—32

## F

Faces facts—Critical Habits of Thought  
 Fair decisions—Impartiality  
 Fair in personal relationships—Impartiality  
 Fairmindedness—Impartiality  
 Fairness in thought—Critical Habits of Thought  
 Fair play—Impartiality  
 Faithful worker—Industriousness  
 Faithfulness—Loyalty  
 Fertility of imagination—Intellectual Ability  
 Fidelity—Loyalty  
 Fine person—Estimableness

Fine character—Moral Character  
 Flexibility—Adaptability  
 Fluency—Oral Expression of Thought  
 Force of character—Forcefulness  
 Forcefulness—61  
 Forcefulness of personality—61  
 Foreign language spoken—Breadth of Intellectual Interests, if it does not classify elsewhere in the Inventory.  
 Foresight—Social Intelligence  
 Forgivingness—Sympathetic Nature  
 Forthrightness—Sincerity  
 Frankness—Sincerity  
 Freedom from false pride or arrogance—Humility  
 Freedom from prejudice—Critical Habits of Thought  
 Freedom from rationalization—Critical Habits of Thought  
 Friendliness—58

## G

General ability—26  
 Generousness—Unselfishness  
 Geniality—Friendliness  
 Gentlemen, a—Refinement  
 Gentleness—Sympathetic Nature  
 Genuineness—Sincerity  
 Giftedness—General Ability  
 Good associates—Moral Character  
 Good-humoredness—Social Acceptance  
 Good judgment—Social Intelligence  
 Good-looking—General Appearance  
 Good mixer—Social Skill  
 Good-naturedness—Social Acceptance  
 Good personality—General Estimate  
 Good taste—Refinement  
 Good-temperedness—Social Acceptance  
 Good will—Unselfishness  
 Graciousness—Social Skill  
 Growth, personal—Growth in Personality  
 Growth in personality—25

## H

Habits, good—Moral Character  
 Handsomeness—General Appearance  
 Happiness—Emotional Balance  
 Hard worker—Industriousness  
 Healthiness—Physical Health  
 Held in respect—Estimableness  
 Helpfulness—Cooperativeness  
 High-mindedness—Moral Character  
 High-spiritedness—Enthusiasm  
 Hobbies—Breadth of Interests  
 Honesty—Moral Character

Humaneness—Sympathetic Nature  
Humility—74

## I

Idealistic(ness)—Moral Character  
Ideals—Moral Character  
Imagination—Intellectual Ability  
Imaginative power—Intellectual Ability  
Impartiality—66  
Impression the candidate makes personally—  
General Estimate  
Indefatigableness—Industriousness  
Independence—Self-Confidence  
Independence of thinking—Critical Habits  
of Thought  
Industriousness—79  
Influential person—Estimableness  
Ingeniousness—Intellectual Ability  
Ingenuousness—Sincerity  
Initiative—Leadership  
Insight into problems involving personal  
factors—Social Intelligence  
Insight into problems not involving per-  
sonal factors—Intellectual Ability  
Integrity—Moral Character  
Intellectual ability—28  
Intellectual integrity—Critical Habits of  
Thought  
Intelligence—Intellectual Ability  
I.Q.—Intellectual Ability  
Intelligent person—Breadth of Intellectual  
Interests  
Interest in art—Esthetic Appreciation  
Interest in music—Appreciation of Music  
Interest in sports—45  
Interest in social questions—Social Point of  
View  
Interesting person—Social Skill

## J

Jovialness—Sense of Humor  
Judgment in intellectual matters—Intellec-  
tual Ability  
Judgment in situations—Social Intelligence  
Justice—Impartiality

## K

Keeness—Intellectual Ability  
Kindness—Unselfishness  
Kindheartedness—Sympathetic Nature

## L

Lady, a—Refinement  
Ladylikeness—Refinement  
Leadership—67

Learns rapidly—Intellectual Ability  
Leisure time activities, breadth of—Breadth  
of Interests  
Liberalness—Critical Habits of Thought  
Liberal, a—Social Point of View  
Lightheartedness—Enthusiasm  
Likeableness—Social Acceptance  
Liked by associates—Social Acceptance  
Loyalty—69  
Lovableness—Social Acceptance  
Lucid expression—Expression of Thought

## M

Magnanimousness—Unselfishness  
Magnetism, personal—Social Skill  
Manliness—52  
Manners—Refinement  
Maturity—37  
Membership in clubs—Social Acceptance  
Mental peculiarities, freedom from—Emo-  
tional Balance  
Mind, bright or alert—Intellectual Ability  
Modesty—Reserve  
Moral Character—84  
"Moral Courage"—60  
Morale—Enthusiasm  
Manner—Social Skill  
Musical ability—Special Skill  
Music, appreciation of—47

## N

Native ability—Intellectual Ability  
Native endowment—General Ability  
Neatness—Appearance, Minor  
Niceness—Refinement  
Normalness—Emotional Balance

## O

Objective intelligence—41  
Objectivity—Emotional Balance  
Objectivity in thinking—Objective Intelli-  
gence  
Obedience—Loyalty  
Open-mindedness—Critical Habits of  
Thought  
Optimism—Enthusiasm  
Oral expression of thought—33  
Orderliness—Carefulness  
Organizing ability—Leadership  
Originality—Intellectual Ability  
Outgoingness—Friendliness  
Outspokenness—Sincerity

## P

Painstakingness—Carefulness

Patience—Sympathetic Nature  
 Peculiarities, freedom from—Emotional Balance  
 Periodical reading—Breadth of Intellectual Interests  
 Perseverance—Industriousness  
 Persistence—Industriousness  
 Personableness—Social Acceptance  
 Personal qualities—General Estimate  
 Personal qualifications—General Estimate  
 Personality—General Estimate  
 Personality, attractive—Social Acceptance  
 Perspective in thinking—31  
 Physical health—35  
 Physique—36  
 Pleasant manner—Social Acceptance  
 Pleasant personality—Social Acceptance  
 Pleasant voice—53  
 Pleasantness—Friendliness  
 Pleasing personality—Social Acceptance  
 Pluck—Industriousness  
 Poise—Self-Possession  
 Politeness—Refinement  
 Popularity—Social Acceptance  
 Positiveness—Forcefulness  
 Practicalness—General Ability  
 Preciseness—Carefulness  
 Prepossessingness—Forcefulness  
 Progressiveness—43  
 Progressive in outlook—Social Point of View  
 Progressive in thinking—Critical Habits of Thought  
 Promptness—Punctuality  
 Prudence—Social Intelligence  
 Public speaking—Oral Expression of Thought  
 Public spirit—Service Point of View  
 Punctuality—80  
 Purposefulness—Industriousness

## Q

Questions, character of the kind the candidate asks—Intellectual Ability  
 Qualities of character that will enable the candidate to succeed in teaching—General Estimate  
 Quickness—Intellectual Ability  
 Quietness—Reserve

## R

Racial tolerance—Sympathetic Nature  
 Realistic thinking—Critical Habits of Thought  
 Reasonableness—Emotional Balance  
 Recommended as a person—General Estimate  
 Recreational interests—Breadth of Interests

Refinement—86  
 Reliability—Dependability  
 Religious interests—Reverence  
 Religious tolerance—Sympathetic Nature  
 Reputation, good—Moral Character  
 Reserve—63  
 Responsibleness—Dependability  
 Responsiveness—Friendliness  
 Resourcefulness—General Ability  
 Reticence—Reserve  
 Reverence—85

## S

Sagacity—Social Intelligence  
 Saneness—Emotional Balance  
 Sanguineness—Enthusiasm  
 Sedulousness—Industriousness  
 Self-confidence—40  
 Self-control—Self-Possession  
 Self-disciplined(ness)—Self-Possession  
 Self-made person—General Ability  
 Self-possession—62  
 Self-reliance—Self-Confidence  
 Self-restraint—Self-Possession  
 Sense of propriety—Refinement  
 Sensibleness—Emotional Balance  
 Sensitiveness (responsiveness to human values)—Tact  
 Seriousness—Industriousness  
 Serenity—Emotional Balance  
 Simplicity—Humility  
 Sincerity—64  
 Skillfulness—General Ability  
 Smartness—Intellectual Ability  
 Sociableness—Friendliness  
 Social point of view—73  
 Social standing—Refinement  
 Society, background in—Refinement  
 Society, upbringing in—Refinement  
 Special skill or ability, general estimate of—  
     Special Skill  
 Spirit—Enthusiasm  
 Stableness—Emotional Balance  
 Steadiness—Emotional Balance  
 Straightforwardness—Sincerity  
 Straight thinking—Intellectual Ability  
 Strong personality—Forcefulness  
 Sweetness—Social Acceptance  
 Sympathetic Nature—57  
 Sense of humor—59  
 Service point of view—76  
 Social acceptance—71  
 Social intelligence—54  
 Social skill—55  
 Skill in dealing with people—Social Skill

## T

Tact—65  
 Talented(ness)—General Ability  
 Teachableness—Adaptability  
 Temperateness—Refinement  
 Thoroughness—Carefulness  
 Thoughtfulness—Unselfishness  
 Thrift—82  
 Tolerance—Critical Habits of Thought  
 Tolerance of people—Sympathetic Nature  
 Trustworthiness—Dependability  
 Truthfulness—Moral Character  
 Travel—48

## U

Unassumingness—Humility  
 Understanding nature—Sympathetic Nature  
 Understanding of ideas—Intellectual Ability  
 Understanding of situations—Social Intelligence  
 Unprejudiced(ness)—Critical Habits of Thought  
 Unselfishness—56  
 Up-and-comingness—Progressiveness  
 Use of English—Expression of Thought

## V

Versatileness—General Ability  
 Vigorousness—Forcefulness  
 Vitality—Forcefulness  
 Vivaciousness—Enthusiasm  
 Voice—53

## W

Well-bred—Refinement  
 Well-read—Breadth of Intellectual Interests  
 Wholesomeness—Moral Character  
 Will speak up for what is considered to be right—"Moral Courage"  
 Willing worker—Industriousness  
 Winsomeness—Social Acceptance  
 Wisdom—Social Intelligence  
 Works well with people—Cooperativeness  
 Written expression of thought—34

## Y

Young man—51  
 Young woman—51

## Z

Zealousness—Enthusiasm

In classifying comments with this list as a guide, some discretion had to be exercised. *Alertness*, for example, was

frequently used in a context which clearly indicated that general mental alertness was referred to rather than general physical attentiveness, and accordingly the comment was classified under General Ability. *Address* may refer to bearing and conduct while approaching another, or to manner of speaking to another. Accordingly whether a comment upon *address* was classified under General Appearance or Expression of Thought depended upon the context. If the context did not suggest a decision, the classification listed was made.

Most of the items of the Inventory are either favorable or neutral. There are some unfavorable items, but these are given specific quality ratings in the Inventory (items numbered 169, 170, 171, 172, 173). The direct criticism of candidates by the use of a word of definitely unfavorable denotation was most rare, occurring not more than five or six times in the total of 1035 different recommendations, if that often. Therefore it was unnecessary to list the antonyms of the trait-names appearing in the Inventory.

The one item that required special treatment was labelled Reserve (No. 63) and defined as "Habitual tendency to allow others to assume the dominant role in face-to-face situations. Unwillingness to become the center of attention." Sometimes when this trait is mentioned, the connotation, at least, is unfavorable. However, it was the judgment of an executive with placement experience, one of the co-sponsors of this study, that not all references to *reserve* were to be taken as being unfavorable. In the analysis of the recommendations, every reference to *reserve* was taken by the author to this executive for consultation, and together the quality rating was decided upon in the light of the context in which the trait was mentioned.

The rating of statements for quality and the Quality Rating Scale are based upon the proposition that the favorableness of the modifying terms used by the writer of the recommendation is an index of his enthusiasm in recommending the candidate and therefore of the quality of the recommendation. The scale was prepared in the following way. A long list of adjectives and adverbs was compiled by studying a large number of recommendations and augmented by search in the dictionary and Roget's Thesaurus for synonyms and antonyms. The adjectives and adverbs of the final list were classified by the author into seven categories which were chosen to represent seven degrees of enthusiasm in recommendation of a candidate or seven degrees of favorableness-unfavorableness in modifying terms. The seven categories with the adjectives chosen to define them are as follows:

Rating	Term
1	best
2	superior
3	above average
4	average
5	mediocre
6	below average
7	inferior

#### QUALITY RATING SCALE

NOTE: The ratings of the terms marked with an asterisk represent group decisions by the sponsors of the study and the author.

##### Rating of 1

absolutely	distinctly
abundant	distinguished
all	entirely
always	especially
amazing	exceedingly
among the best	excellent
astonishing	exceptional
best	extraordinary
brilliant	extremely
commanding	faultless
complete	grade of A
conspicuous	greatest
consummate	highest
decided	imposing

impressive  
incomparable  
incredible  
inimitable  
intensely  
largest  
matchless  
more than any other  
most  
most with a modifier  
rated 2 or 3  
notable  
noteworthy  
one of the best  
paramount  
particularly  
peculiarly  
peerless  
perfect  
preeminently  
profound  
pronounced  
rare

remarkable  
signal  
singular  
striking  
strongest  
superlatively  
surpassing  
top 10 per cent  
unapproached  
unequaled  
unique  
unlimited  
unparalleled  
unqualifiedly  
unquestionably  
unrivalled  
unsurpassed  
vast  
very outstanding  
very splendid  
very superior  
without reservations

##### Rating of 2

ample	superior
altogether	thoroughly
altogether with a modifier rated 2 or 3	thoroughly with a modifier rated 2 or 3
admirable	top 25 per cent
comprehensive	uncommon
considerable	unordinary
considerably above average	very
expert	very with a modifier rated 2 or 3
extensive	Exceptions:
first-class	very outstand- ing
first-rate	very splendid
grade of B+	very superior
in all situations	very able
in every way	very capable
noticeable	very competent
outstanding*	very fine*
plentiful	very great*
proficient	very high
quite with a modi- fier rated 2 or 3	very strong
rather with a modi- fier rated 2	very successful
reputable	well with a modifier rated 2 or 3
solid	without hesitation
splendid	

##### Rating of 3

able	above average
------	---------------



But the statement "He is a good teacher" can be evaluated. A modifying term has been added which implies the degree to which the trait is possessed by the candidate in the opinion of the writer of the recommendation. This statement would be rated 4 because *good* is rated 4 in the Quality Rating Scale. "He is a strong teacher" would be rated 2, and so on. The quality rating is simply based upon the modifying term. In such statements the modifying terms themselves carry all of the implication of the degree to which the trait or qualification is possessed.

Some evaluations, however, are made without the use of terms modifying the word or phrase identifying the trait or qualification imputed to the candidate. Such statements cannot be referred to the Quality Rating Scale. For example, "He is enthusiastic." The adjective *enthusiastic* is not qualified and there are no modifiers to rate. The adjective serves to identify the trait possessed by the candidate, but it also indicates the degree to which the trait is possessed. Such statements were given a quality rating of 3. It was assumed that because the trait had been singled out for mention in the recommendation it was possessed to above-average degree.

If the adjective serving to define the trait commented upon had been qualified by a favorable adverb, the rating would have been raised to a 2. For example, "He is very enthusiastic." The rule used was that the addition of the favorable modifier raises the rating one point. Another favorable modifier would raise the rating another point. Thus, "He is very markedly enthusiastic" would be rated 1. Unfavorable modifiers would reduce the rating in a like manner.

If a single adverb from the list rated 1 had modified the adjective, the quality rating would have been 1. For example,

"He is particularly enthusiastic." And the same principle would hold for modifiers from the list rated 7.

In case the trait possessed by the candidate was identified by a noun, a rating of 3 was given when the noun indicated that the trait was singled out for mention by the writer. Thus, "He has enthusiasm" would be rated 3. "He has much enthusiasm" would be rated 2 because the original rating of 3 would be increased one point for the additional favorable modifier. In all of these cases the word or phrase identifying the trait implies that the trait is possessed to some degree.

In other cases the rating was based strictly upon the modifier. "His enthusiasm is marked" and "He is strong in enthusiasm" would both be rated 3 because *marked* and *strong* are in the list rated 3. These statements were not rated 2 just because a favorable modifier is found with a trait-name. In the foregoing cases, the modifiers carry all the qualification expressed; the trait-name is used solely to identify the trait being referred to. The distinction is between the statement in which the trait-name serves only to identify the trait about which the statement of degree is made, and the statement in which the trait name is used in such a way that it signifies degree as well as identifying the trait. In the latter case the mere use of the word or phrase identifying the trait implies evaluation of the candidate.

Certain modifying terms have the effect of reinforcing the quality designation in such a way as to raise the quality rating. "In every way," "in all situations," "indeed," and "without hesitation" are examples. "He is cooperative in all situations" would be rated 2 instead of 3, the rule being to raise the rating one point. Underscoring of the

word indicating quality was interpreted in the same way.

In general, whenever the rating was based strictly upon the modifying terms and a number of favorable modifying terms were found in a series, the rating was based upon the following scheme:

Modifiers		Rating
Class	Class	
1	1	1
1	2	1
1	3	1
1	4	3
2	2	2
2	3	2
2	4	3
3	3	2
3	4	3
4	4	4

Certain exceptions as well as certain of the more common combinations are to be found in the lists of the Quality Rating Scale.

Item No. 51 of the Inventory, a statement that the candidate is a young man or young woman, was not rated but was simply checked as being present. If any estimate of the candidate was qualified by such a phrase as "for a young person," the quality rating was reduced one point. Thus, "For a young man he had decided ability in leadership" would be rated 2 rather than 1.<sup>3</sup>

The rating for quality of statements classified under the section of the Inventory, General Estimate and Recommendation and/or Prediction of the Degree of Success That Will Be Achieved, was accomplished with a scale adapted

<sup>3</sup> Record was also made of information useful for weighing purposes but not required for the investigation reported here. If there was definite indication of the degree of confidence of the writer in his evaluations, it was recorded. If the evaluation of the writer seemed to be based upon observation of the candidate in a number of positions in the field, that fact was recorded.

from one proposed by Weidemann (20, p. 90). The following categories were adapted from Weidemann's scale and assigned the quality ratings indicated:

1. Most heartily recommend and believe this teacher to be one of the best equipped of this year's teachers, or one of the best teachers of my staff, or one of the best teachers of my acquaintance.
2. Am glad to give this teacher my cordial recommendation.
3. Willingly recommend this teacher.
4. Believe this teacher may be safely recommended.
5. Feel unable to express myself either favorably or unfavorably with respect to this teacher.
6. Am in doubt as to whether this teacher should be recommended.
7. Cannot recommend this teacher.

At the time the job-situations and candidates were initially selected, sets of credentials containing the recommendations, there being one set for each candidate, were alphabetized by name of candidate for each job-situation. Then the job-situation sets were put in order by subject matter field. This was done in such a way as to leave no clue as to which candidate was the successful one. During two years which had elapsed from the time the credentials were taken from the files and the job-situations were originally studied to the time when the process of analyzing the recommendations was begun, the author had completely forgotten the identity of the successful candidates.

The author studied each recommendation, analyzing it into a series of statements, and recorded the data in two parallel columns as in the Illustration of Recommendation Analysis. All of the recommendations for all of the candidates of a given job-situation were analyzed at the same time, candidate by

candidate. The data were recorded by recommendation, by candidate, by job-situation, the trait or qualification commented upon being recorded in one column with the Inventory number, and the quality rating being recorded in a second column opposite the trait number.

If a number of statements in succession referred to the same trait, the quality rating which seemed to represent the impression made by the whole series of statements was recorded as well as individual quality ratings for each statement so that a single rating representative of the whole series might be employed in obtaining a score for the recommendation, and the Inventory number was recorded with ditto marks. When, however, the trait is one which might cover a number of instances of the qualification, the Inventory number was repeated, and the quality of each statement was given a separate rating. An example would be the specification of a number of different extra-curricular activities.

Comments of the writer regarding the importance of traits or qualifications were disregarded. For example, no attention was paid to the last clause in this statement, "She has a dynamic and likeable personality, which is salient."

For statements of non-ratable information, again the Inventory number was recorded in the first column, but a dash was recorded in the second column to

indicate that the statement did not receive a quality rating but was to be considered as having contributed to the length of the recommendation.

The process of analyzing the recommendations depends in the last analysis upon the judgment of the research worker and is admittedly subjective. The unreliability inherent in the judgment of a single individual might have been overcome by increasing the number of subjective judgments and then taking the consensus, but it appeared impossible to find other judges who could go through the process the author did before analyzing the recommendations. The whole process of reading hundreds of recommendations with definite problems of the research in mind, of constructing the Inventory, of classifying modifying terms in the Quality Rating Scale, and of classifying synonyms and antonyms of personality traits seemed to be a necessary preparation for the final process of analyzing the recommendations themselves. This preliminary process required months of concentrated effort. It did not seem feasible for others to go through the same process. The alternative was to employ every possible means to make the work of the author as objective and consistent as possible. The Inventory, the Quality Rating Scale, and the List of Equivalent Trait-Names and Phrases helped in that process, and every precaution was taken to insure care in the work.

ILLUSTRATION OF RECOMMENDATION ANALYSIS

*The Recommendation:*

(S7 K5)

2/19/36

Mr. K has been connected with the local schools for the past five years as a science instructor and now as Principal of our senior High School, a promotion he won by his services within our school system.

Mr. K has an excellent personality, pleasing to meet, and one who grows as you become better acquainted with him. He possesses an excellent character, high ideals, correct attitudes and a practical viewpoint. He is neat in his personal appearance.

Mr. K is interested in community affairs, loyal to the institution that he is connected with, and his associates. He has a very good influence over the student body and is excellent in helping to solve their problems. He has social sanity and a keen sense of values. He has his work well organized, makes excellent preparations, executes his plans efficiently and secures good results.

While I have been acquainted with Mr. K only for the past year, yet my close association with him during this time proves to me his excellent work and insight into his future growth and possibilities. I am more than pleased to recommend Mr. K.

Signed: H. F. N.

Superintendent of Schools  
L, T.

### *The Analysis:*

Statement	Inventory Item	Quality Rating
1. Date of the recommendation		
2. Mr. K has been connected with the local schools.	16	—
3. Mr. K has been connected with this system for the past five years.	15	—
4. Mr. K has served as science instructor and now as Principal of our senior High School.	17	—
5. The latter position was a promotion he won by services within our school system.	144	3
6. Mr. K has an excellent personality.	24	1
7. Mr. K is pleasing to meet.	71	3
8. Mr. K is one who grows as you become better acquainted with him.	72	3
9. He possesses an excellent character.	84	1*
10. He possesses high ideals.	"	3
11. He possesses correct attitudes.	"	3
12. He possesses a practical viewpoint.	—	—
13. He is neat in his personal appearance.	50	3
14. Mr. K is interested in community affairs.	140	3
15. Mr. K is loyal to the institution that he is connected with.	133	3
16. Mr. K is loyal to his associates.	135	3
17. He has a very good influence over the student body.	177	3
18. He is excellent in helping to solve their problems.	178	1
19. He has social sanity.	10	—
20. He has a keen sense of values.	31	3
21. He has his work well organized.	183	4
22. He makes excellent preparations.	181	1
23. He executes his plans efficiently.	193	3
24. He secures good results.	174	4
25. While I have been associated with Mr. K only for the past year, yet my close association with him during that time	—	—
26. Proves to me his excellent work.	144	1
27. My association with Mr. K gives me insight into his future growth and possibilities.	92	3
28. I am more than pleased to recommend Mr. K.	195	2

Sum of quality ratings = 50.

Mean quality rating -  $(50 \div 21) = 2.381$ .

\* The quality rating indicated was judged to represent the impression made by the series of three statements about the same Inventory item.

## CHAPTER 4

### FACTORS AFFECTING NOMINATION AND PLACEMENT SUCCESS

**W**HETHER a candidate is successful in obtaining a teaching position through the agency of a placement office depends upon his surviving two processes of selection; one is nomination by the placement executive handling the inquiry, and the other is appointment by the employer. In both cases the decision rests upon a variety of factors. Three principal kinds of information regarding the candidate are possessed by the persons responsible for selection and form the basis for their decisions. These are impressions from personal contact, factual information, and evaluations of the candidate made by others. Each of these in turn is obtained principally from a unique source. Impressions of the candidate are usually gained from interviews, this being particularly so for the employer. Factual information is frequently found in the recommendations but is primarily obtained from biographical forms which usually are included in a set of credentials. Evaluations of the candidate made by others are found principally in the recommendations.

The pertinent procedures of the Office of Placement Service of Teachers College are as follows. In response to a request for nominations, sets of credentials are either mailed or given to the employer for examination. A set of credentials consists of a cover page identifying the candidate, a photograph, six pages of biographical information, and copies of the recommendations the candidate has on file. The candidate is allowed to choose from whom he will request recommendations and these are secured with the form referred to in Chapter 3. The

biographical information is solicited through a series of questions which the candidate answers as he chooses.

The following information about the candidate and his qualifications is typically available from the credentials.

#### Cover Page

1. Name of the candidate.
2. Photograph showing the head and shoulders.
3. Present address.
4. Present position.
5. Date the credentials were compiled.

#### Personal (Page 1)

1. Date the candidate filled the biographical forms.
2. Name of the candidate.
3. Permanent address.
4. Year of birth.
5. Marital status.
6. Number of children.
7. Church.
8. Height.
9. Weight.
10. Name of high school from which graduated.
11. Location of high school from which graduated.
12. Date of high school graduation.
13. Record of attendance at higher institutions of learning including Teachers College.
  - a. Name of institution.
  - b. Dates of attendance.
  - c. Degrees received.
14. Degree for which the applicant is at present a candidate.
15. Approximate date on which this degree is to be conferred.
16. Honorary fraternities.
17. Foreign languages spoken.
18. Types of positions the candidate is prepared to accept.

#### Undergraduate Courses (Page 2)

1. Name of the candidate.

2. List of undergraduate courses by years.
3. Evaluation of undergraduate experience by the candidate. (The question reads: What specific abilities or attitudes did you get in college which, in your opinion, should make you of value to an employer?)

#### Graduate Courses (Page 3)

1. Name of the candidate.
2. List of graduate courses taken at Teachers College and Columbia University.
  - a. Name of the instructor.
  - b. Title of the course (not catalog number).
3. Graduate courses taken elsewhere.
  - a. Name of the institution.
  - b. Name of the instructor.
  - c. Title of the course.

#### Experience (Page 4)

1. Name of the candidate.
2. Experience.
  - a. Dates.
  - b. Name of the institution.
  - c. Location of the institution.
  - d. Type of work.
3. Comment. (The instructions read: Mention any outstanding features of your training and experience not covered above or under questions on Page 5.)

#### Extra-Curricular Activities (Page 5)

1. Name of the candidate.
2. List of activities in which the candidate can participate.
3. List of activities which the candidate can direct.
4. Comment. (The instructions read: Write specifically of your interest or experience in these or other activities.)

#### Candidate's Page (Page 6)

1. Name of the candidate.
2. The instructions read: This is your page. On it you may write whatever you please to serve whatever purpose you may have.

#### The Recommendations

Answers to additional questions, though not directly provided by this information, can frequently be inferred, or with the aid of the information can

be secured from other sources. The following items are of this type:

1. Geographical or regional location of early environment.
2. Sociological character of early environment.
  - Urban or rural.
3. Nationality as judged from the name, and, perhaps, from the location of the school where secondary education was obtained.
4. Race as judged from the photograph.
5. Type of secondary school attended.
  - a. Public or private.
  - b. Public or parochial.
6. Type of collegiate education.
  - a. Teachers college, liberal arts college, or university.
  - b. Coeducational or otherwise.
7. Record of persistence on the part of the candidate in the face of apparent difficulties in order to obtain an education.
8. Specific listing of the type of the position open as one the candidate is prepared to accept.
9. Number of different types of positions the candidate is prepared to accept.
10. Variety of positions for which the candidate considers himself qualified.
11. Subject matter listed first by the candidate.
12. Judging from the list of courses, the candidate's undergraduate major.
13. Judging from the list of courses, the candidate's undergraduate minors.
14. Judging from the list of courses, the candidate's graduate major.
15. Judging from the list of courses, the candidate's graduate minors.
16. Location of the majority of the courses taken.
  - In the subject matter field or in education.
17. Number of years of teaching experience.
18. Number of situations in which the teaching experience has been gained.
19. Grade or age groups taught.
20. Subjects taught.
21. Experience in guidance and counseling.
22. Experience in supervision.
23. Experience in administration.
24. Types of schools in which the experience has been gained.
  - a. Public or private.

- b. Coeducational or otherwise.
- c. Urban or rural.
- d. "Progressive" or otherwise.
- e. Elementary, secondary, or collegiate.
- 25. Variety and amount of summer teaching experience.
- 26. Variety, amount, and, perhaps, the value of experience other than professional work in education.
- 27. Present state of employment.
- 28. Versatility in extra-curricular activities.

The sections for comment by the candidate on pages 2, 4, and 5 together with the Candidate's Page frequently give clues respecting the following items of information:

- 1. The age group in which he is most interested.
- 2. The seriousness of his interest in the vocation of teaching and the motives that led to his selection of the profession.
- 3. The degree of his personal interest in boys and girls.
- 4. Something of his philosophy of education.
- 5. His skill and interest in different extra-curricular activities.
- 6. The hobbies and avocations he most enjoys.
- 7. The entertainment and recreations he most enjoys.
- 8. The variety and value of his work experience.
- 9. The variety and value of his travel experience.
- 10. The values in his own education he considers most significant.
- 11. Something of the development of his own personality.
- 12. Perhaps something of his orientation with respect to social problems.
- 13. Something of his philosophy of life.

When considering candidates an employer generally has in mind certain particular requirements, two aspects of which are important. A requirement may be specified in the inquiry or correspondence, or not specified. And a requirement may be reasonable or unreasonable. A requirement specified in the inquiry, which will be called a

specification, may be either reasonable or unreasonable; and an unspecified requirement, likewise, may be either reasonable or unreasonable. For obvious reasons there is a tendency for specifications to be reasonable and for unreasonable requirements to be unspecified. Requirements that are taken for granted may seem to form a special class, but because of the way in which they operate should be classified with specifications. For example, an employer may fail to mention a sex requirement for a position in a girl's boarding school, but experienced placement executives will assume that the candidate must be a woman. Whether a given requirement in a given job-situation is reasonable or unreasonable is a matter of opinion, and a detailed basis for distinction between the two kinds of requirements is not necessary for this study. It is enough to have it understood that these requirements run the gamut from stipulations that nearly everyone would agree are reasonable to those that nearly everyone would agree are matters of prejudice. It is, of course, impossible to demonstrate that an unspecified requirement has actually operated in a given job-situation; but, nevertheless, one cannot go to the opposite position and assume that because requirements have not been specified, they have not operated. With respect to unspecified requirements, the research worker is forced to deal with possibilities.

Some inquiries give definite information about the character of the position to be filled and about the qualifications desired in the candidate—as, for instance, an inquiry calling for a man who had been graduated by one of three men's colleges of a certain state. Other inquiries have some specified requirements, but not many and not very nar-

row requirements. In fact, frequently the inquiry itself refers to the desired qualifications as preferences rather than requirements. The more reasonable and more usual the qualification desired, the more likely the employer is to look upon it as a requirement rather than a preference. A surprisingly large number of inquiries are received with a bare minimum in the way of specifications and description of the position. Even though it is one of the most important items of information, not all inquiries mention the salary or salary range and other rewards attached to the position. Sometimes specific questions must be asked of the employer by correspondence before the position is sufficiently defined. Of course, practically all inquiries specify the subjects and grade levels to be taught. The next most common specification for positions on the secondary level relates to the sex of the candidate. From his experience with the employer and knowledge of the community the executive fills in the questions left by the inquiry in an attempt to get as complete a picture as possible before making nominations.

As the executive searches his list of available candidates, he has to keep in mind several considerations. Specifications mentioned by the employer in the inquiry or inferred by the executive from the description of the position or the school are important whether they appear to the executive as reasonable or unreasonable demands. In addition, there may be considerations, unacknowledged by the employer, which are known to the executive because of experience with the employer, or which are assumed because of knowledge of the community. Finally, the rewards offered by the position must be considered. The salary, the opportunity for advancement, the oppor-

tunity to teach certain specialties, the opportunity to work under favorable conditions of supervision and administration, and other kindred factors are of utmost importance in the mind of the candidate and therefore are carefully considered by the executive. If information about these factors is lacking, it must be searched for and estimates made of the salary to be paid.

It is these rewards that chiefly determine the quality of the candidates that are nominated. Superior candidates are sometimes nominated, with the permission of the candidate, for inferior positions, but not generally, and it is seldom that inferior candidates are nominated for superior positions. The influence of the rewards offered by the position as a factor in the selection process is decidedly in the direction of a reduced range of general quality among the nominees. The tendency is to concentrate the candidates within a relatively reduced range of general calibre. Nevertheless, there are counteracting forces that keep the range from becoming unusually narrow. For his judgment with respect to the candidate's general quality the executive has all three sources of information: impressions from interviews, facts from the biographical forms, and evaluations to be found in the recommendations.

Ordinarily the candidate to be nominated must meet the specified requirements, and it is desirable that he meet the specified preferences also; not so much because of the importance of such requirements and preferences, even in the minds of employers, as because of the fact that frequently there are plenty of candidates who do meet the specifications exactly and as long as that is true, there is no reason for nominating candidates who do not. If, however, the specifica-

tions are large in number or unusual in character and the number of available candidates has been reduced by other considerations, an executive may nominate candidates who do not meet the specifications at every point, especially if the rewards offered by the position are limited. Sometimes the executive will nominate a candidate who fails to meet the specifications at one point if he is especially strong at other points, with the hope that the employer will consider the candidate in spite of his failure to meet all of the specifications. Sometimes candidates may even be nominated who fail to meet the subject matter requirements if the position is to teach a variety of subjects. This happens because the executive knows from experience that the employer may not be able to find candidates who have just the combination of subject matter backgrounds desired, and in such an event, the candidates nominated may be considered. In spite of exceptions, however, in general, only candidates who meet the specifications of the inquiry are nominated. Specifications may relate to many qualifications. The more usual items are these: field of primary specialization, fields of secondary specialization, sex, number of years of teaching experience, ability in extra-curricular activities. The presence of specifications for the position in all likelihood reduces the number of candidates available for nomination, but it is to be doubted if, in general, the range of general quality among the candidates is thereby reduced.

Unreasonable requirements are also usually unspecified, but not all unspecified requirements are unreasonable. Although it is not always specified, it may be assumed, for instance, that most employers will prefer a candidate with teaching experience, other factors being

equal. Unspecified requirements may or may not be acknowledged by the employer. Many of the latter and some of the former will be the result of individual predilections that the employer either has as a person or feels forced to adopt because of the viewpoints of his community. It is important to note that the operation of such factors can rarely be demonstrated; however, the fact that such factors operate is accepted generally by placement workers. Unspecified requirements, whether acknowledged by the employer or not, and whether reasonable or not, are like specifications in that while they undoubtedly reduce the number of candidates available for nomination, they probably do not reduce the range of general quality among the candidates nominated. This would seem to be true even for prejudices.

Requirements of the type discussed so far, whether specified or not, whether acknowledged or not, and whether reasonable or not, are alike in that they are particular. The requirement may be that the candidate have had a period of study in France; it is particular. The preference may be for a married woman; it is particular. The degree to which the candidate meets this type of requirement is evaluated both by the placement executive and the employer with factual information; and that is secured from the items of information (non-ratable) in the recommendations, from interviews, and from the biographical forms, but principally from the last. Therefore, in the next chapter, the effects of this information on the candidate's employment chances are referred to as extra-recommendation factors.

The other type of requirement of the employer is general. The two principal general requirements are that the candidate make a favorable impression in an

interview and that the evaluations of the candidate made by others in the recommendations be favorable.

Undoubtedly it would have been preferable if the varying impressions made by the candidates in the interviews held could have been taken into account, but that was found to be impossible. The Office of Placement Service records were marked only when it was known that an interview had been held within the Office itself, no attempt being made to systematically record whether interviews had taken place outside of the Office. Evidence that an interview was scheduled could not be taken as evidence that it had been held. For example, the correspondence revealed situations in which the executive had arranged for interviews, but for various reasons they had not been held.

Sometimes there was evidence that the successful candidate was interviewed but that none of the others were. This usually means that the credentials had been studied by the employer and the best candidate chosen for an interview with the thought that if the interview showed the candidate to be satisfactory, he would be offered the position. In such situations the interview is not a factor to be taken into account in the comparison of successful with unsuccessful candidates. Instead it must be considered a basis for

checking a selection which had been previously made on the basis of other factors. Eleven such known cases in the data were not considered enough to warrant further study of this group by itself.

For every position a list of candidates is nominated by the placement executive. In this study the number varies from 2 to 8. On the basis of information obtained from interviews with the candidate, from the biographical forms, and from the recommendations, the candidates, in the opinion of the placement executive, are fairly matched with respect to the calibre of candidate appropriate to the salary and other rewards offered by the position, are alike in that they all meet or reasonably approximate the specifications of the inquiry, and are all serious competitors in that unspecified requirements likely to influence the employer and known to the executive have been taken into account. One of the list is successful. If it is assumed that candidates unable to meet unspecified requirements had been eliminated or that such factors had not operated; that the candidates were evenly matched with respect to the specifications for the position; and that the candidates made equally good impressions in any interviews held, then the successful candidate should be found to have the best recommendations.

## CHAPTER 5

### EXTRA-RECOMMENDATION FACTORS AND PLACEMENT SUCCESS

**R**ECOMMENDATION excellence is only one of several factors determining placement success. Actually a relation between placement success and recommendation quality as one of the constituents of recommendation excellence might exist but be obscured by extra-recommendation factors operating in such a way as to conceal the relation. It would be better if the relation could be studied under conditions in which the effects of other factors exclusive of the recommendations were equivalent, i.e., when all of the candidates had the same or equivalent status with respect to all of the requirements of the employer. Such ideal situations are impossible to obtain, of course, so the practical course was taken of working with job-situations in which it was not known that other factors were decisively unequal. If nominees whose candidacies might have been affected unequally (for that job-situation) by extra-recommendation factors were eliminated, in the remaining job-situations, influences preventing recommendation evaluations of superior quality from securing positions for the candidates for whom they were written would be reduced to a minimum.

Two comparisons of the recommendations of the successful candidates with those of their unsuccessful competitors were made, the first, with all of the job-situations and all of the candidates, and, the second, with only those job-situations and candidates that remained after the elimination of nominees whose candidacies appeared to be affected unequally by extra-recommendation factors. In order to determine which candidates to

eliminate, an individual study was made in case history fashion of all of the available data for each job-situation. Not only were the facts on record reviewed, but the executive who handled the inquiry and any other executives familiar with the employer or the community were consulted for information as to the possible operation of factors involved. The decision to retain or eliminate a candidate was arrived at only on the basis of the total picture and after the whole job-situation had been outlined as in the studies in the Appendix.

The fact that it is the status of the candidate with respect to the requirement that constitutes the factor of interference will bear emphasis. This means that in every job-situation as far as possible the requirements for the position, both reasonable and unreasonable and both acknowledged and unacknowledged, must be ascertained and the status of each candidate with respect to each requirement must be examined. If the status of a candidate with respect to a requirement operates as a factor which by itself (i.e., apart from the recommendations), or in combination with other such factors, could reasonably be judged to have caused the success or failure of the candidate, the true relation between recommendation quality and placement success is obscured or interfered with. In other words, an interfering factor is present whenever a status operates to the unequal advantage of a successful candidate or to the unequal disadvantage of an unsuccessful candidate. Decisive interference in a given job-situation can never be proved, of course, but, when-

ever there was a reasonable possibility of decisive interference, the candidate was eliminated. If the successful candidate or so many unsuccessful candidates were eliminated that not a single comparison between successful and unsuccessful candidates remained, the job-situation was automatically eliminated.

Not all facts about a candidate outside of the evaluations of the recommendations are possible sources of interference, however. Some of such outside facts are represented in the evaluations and therefore have the opportunity to influence the relation between recommendations and placement success in that way. The effect or influence of the fact is felt through the medium of the recommendations because the fact is concomitant with rather than independent of the recommendation evaluations.

Membership in honorary societies may be taken as an example. If a candidate is a member of an honorary society, presumably it is because of his accomplishments as a student in education. Certainly these accomplishments will be reflected in the evaluations found in the recommendations. This relationship is one of correlation. If then in a certain job-situation the successful candidate is a member of an honorary society and none of the unsuccessful candidates are, it is not necessary to assume that his membership constitutes an interfering factor. If that were assumed, the candidate would be eliminated and a perfectly legitimate comparison in which the more able nominee might be expected to be the successful candidate would be eliminated. A relation cannot be found by eliminating, for no reason, those comparisons in which it is most likely to occur.

A record of one year of experience in a position provides another example. Not

always, but frequently such records indicate failure in the position. Inasmuch as a record of failure in a position would influence an employer, it might seem that such a record would be an interfering factor. However, if there has been failure, it should be represented in the evaluations in the recommendations, and through that medium will adversely affect the candidate's employment chances. One year of experience is a factor, but a correlative rather than an interfering factor.

Whenever the status of both the successful and the unsuccessful candidate was the same with respect to a requirement, it was judged that no interference was involved. This was true regardless of whether from the nature of the requirement the status was judged to be of advantage or disadvantage. In Job-Situation No. 22<sup>4</sup> both Candidates A and C disavowed any church connection. Such a status would ordinarily be considered disadvantageous, and if Candidate A, who was successful, had acknowledged affiliation with a church, Candidate C would have been eliminated. But with both candidates having the same status, no interference could be imputed.

In general, whenever two opposing candidates have a different status with respect to the same requirement there is a possible source of interference. Whether interference is judged to be present depends upon the particular requirement, the particular status, and whether the candidate was successful or unsuccessful. If the status is presumably disadvantageous but the candidate was nevertheless successful, no interference was considered to be involved. In Job-Situation No. 37, for example, Candidate A was successful in spite of the fact that he did

<sup>4</sup> Outlines of job-situations referred to in this chapter are presented in the Appendix.

not meet the specified preference for a candidate with ability to direct athletics, whereas the other two candidates did. Although his inability to direct athletics must have been to his disadvantage, other factors, among which must be included the quality of his recommendations, were sufficiently strong to overcome that disadvantage in the judgment of the employer.

If the status is presumably advantageous but the candidate was not successful, no interference was considered to be involved. In Job-Situation No. 12 one candidate had had two years of teaching experience whereas his competitor had had none. Nevertheless no interference was involved on that point because the experienced candidate (B) was not successful.

Whenever two opposing candidates have a different status with respect to the same requirement, interference may be involved either because a successful candidate may have been aided by an advantageous status or because an unsuccessful candidate may have been injured by a disadvantageous status. The success of Candidate A in Job-Situation No. 24 which may have rested on the fact that he was a "local candidate" illustrates the first case. For this study there is no way of determining whether the candidate was successful because of local influence, because of the superior quality of his recommendations, or for other reasons; but when the possibility that he was successful because of local influence is as real and substantial as it is in that job-situation, the fact that he was a "local candidate" must be considered an interfering factor. The second case is illustrated by the elimination of Candidate B in Job-Situation No. 22 because the adequacy of her subject matter preparation was doubtful. Apart from the qual-

ity of her recommendations, this inadequacy, of itself, might have been a decisive factor in her failure to secure the position.

Whenever it was impossible to judge with confidence from the nature of the requirement whether a given status was advantageous or disadvantageous, the status of the successful candidate was presumed to be one of advantage. The use of this rule was frequently required when candidates of different church affiliations were competing with each other. Thus in Job-Situation No. 37, inasmuch as A and B, opposing candidates, are of different religious faiths, and inasmuch as the predilections of the employer and the community were unknown, there is a possibility that Candidate A received the position because of his religion, that Candidate B lost the position because of his religion, or that both influences operated—in any one of these cases interference is involved.

However, the fact that the successful candidate has a different status from that of the unsuccessful candidate does not necessarily mean that the status of the unsuccessful candidate is one of disadvantage. It depends upon the status of each and the requirement. For instance, in Job-Situation No. 18 the status of Candidate B, a Protestant, was not presumed to be disadvantageous just because it is different from that of Candidate A, who stated that she was not a member of any church. Rather it was presumed that Candidate A was successful in spite of her status with respect to church affiliation and that Candidate B's status was not a reason for her failure.

Failure to meet both reasonable and unreasonable demands on the part of an unsuccessful candidate must be considered as possible sources of interference. In the same way success in meeting both

reasonable demands as well as prejudices on the part of the successful candidate must be considered sources of interference. In either case a factor operates independently of the influence of the evaluations of the recommendations, and thus obscures the relation between recommendations as judged by the quality of the evaluations therein and placement success.

The following requirements were specifically kept in mind by the author while studying the factors operating in each individual job-situation. The effect of different possible status under each will be clear in some cases without explanation. Whenever it seemed necessary, the assumptions made regarding the effect of different possible status are indicated.

1. The specifications the employer mentioned in the inquiry.

In every case possible, the specifications listed on the inquiry record form were checked with the letter in which the inquiry was received. In cases in which the inquiry was received by telephone or through a personal interview, a complete check could not be obtained.

One of the demands most likely to be specified is ability in a particular extra-curricular activity. Ability in extra-curricular activities has not been included in the list below because, if it is not specified, it may be presumed to be unimportant, whereas the other factors listed are important whether specified or not.

2. The sex of the candidate.

It was assumed that there was no preference for either sex unless a requirement was mentioned in the inquiry or could reasonably be inferred from the type of school.

3. The age of the candidate.

Unless there was evidence to the contrary, it was assumed that age might be a factor against candidates 40 years of age or over who were in competition with younger candidates.

4. The age of the candidate in relation to the number of years of experience.

It was assumed that a candidate over 30 years of age who had changed his vocation and had had very little teaching experience might have been at a disadvantage.

5. Religion stated by the candidate.

In general, unless an opinion of an executive who knew the employer and/or the community was evidence to the contrary, the possibility that religion was a factor was assumed when the religion of the successful candidate was in one group and the religion of the unsuccessful candidate was in a different group. The following scheme of grouping was used:

- a. Protestant, Unitarian, Christian Scientist, Non-Sectarian, Christian, No Preference.
- b. Roman Catholic.
- c. Hebrew.
- d. Other.
- e. The word *none* used by the candidate, or the space left blank.

6. The number of years of teaching experience.

The year 1936-37 was included in the number of years of teaching experience if the candidate was then employed and the work of the position was to start after the school year had closed. In every case the same basis of calculation was used for all of the candidates for a given position.

Practice teaching of any variety done while the candidate was a student was not counted as teaching experience. Teaching as a substitute was given separate mention, as was teaching in summer sessions. Experience as a New York City teacher-in-training was considered as regular teaching experience. Teaching experience on any level of the educational system, in either public or private schools, in the United States or abroad, was counted. Special types of teaching experience were noted and are mentioned in the outlines to be found in the Appendix.

Teaching experience was considered a factor of advantage and lack of experience a factor of disadvantage regardless of whether experience was mentioned as a specification.

- 7. If the position was in a private school, the number of years of teaching experience in private schools.

Private school teaching involves adjustments not always demanded in public school teaching and successful experience in private schools is evidence of ability on the part of the candidate to make those adjustments.

- 8. Unusual features of the teaching experience of the candidate in relation to the demands of the position.
- 9. The field of primary specialization in relation to the demands of the position.
- 10. The fields of secondary specialization in relation to the demands of the position.
- 11. In job-situations where it might have been a factor, marital status.

In the case of public schools, it was assumed that there was no bias either for or against married men, single men, or single women. In the case of private schools with large enrollments of boarding students, it was recognized that because staff members are frequently assigned dormitory duties, there is often a preference for unmarried candidates. It was assumed that if there was a preference for married women, the inquiry would so state; otherwise the possibility of bias against married women was considered.

- 12. In job-situations where it might have been a factor, the number of children.

In the case of married women candidates, and men candidates for positions in private schools, this may have been a factor.

- 13. In job-situations where it might have been a factor, the degree held.
- 14. In the case of positions in private schools, whether the compensation included maintenance.

This is important because married candidates are frequently not in a position to live in a dormitory.

- 15. Foreign nationality or background.

This is frequently an advantage if the

position is to teach the native language; otherwise it may be a disadvantage.

- 16. Record of divorce.
- 17. Physical handicap.
- 18. Expressed lack of interest in the age group of the school or unit in which the position is open, or expressed interest in the age group of another level.
- 19. Expressed extreme political or social views.
- 20. State certification requirements.
- 21. Special recommendation by the Office of Placement Service.
- 22. Whether the candidate was a "local candidate."

A "local candidate" is one who either has local influence in his favor or against whom there might be prejudice because he came from the locality and the employer had a practice of not employing local candidates.

- 23. Whether the credentials were sent upon request of the employer.

Such a request does not represent evidence that the employer has special interest in the candidate, but it does constitute evidence that there is no special disinterest.

- 24. Whether there is a record of an interview at the request of the employer.

Such a record constitutes positive evidence that the employer was interested enough in the candidate to interview him.

If all of the candidates were known to have been interviewed, that fact was noted and indicated in the outline made for each job-situation, although the job-situation was not eliminated on that account. As has already been explained, in this study, interviews represent an uncontrolled factor.

Sargent's Handbook (15) was taken as an authority for information regarding private schools.

## CHAPTER 6

### THE COMPARISON OF SUCCESSFUL WITH UNSUCCESSFUL CANDIDATES

IF A TOTAL POPULATION of scores homogeneous in character is divided into random groups, the means for those groups would be expected to differ from each other, but within relatively confined limits. If, however, the total population is really a mixture of scores from two or more populations with different means, and if the groups are so chosen that scores from one population predominate in one group and scores from another population predominate in another group, and so on, the means of the groups should differ relatively widely from each other. Examination of the variation among the means of a set of groups, then, ought to indicate whether the groups can be considered to be random samples from one homogeneous population. In general, analysis of variance, which is the method chiefly used in this study, is a method for evaluating the null hypothesis which states that each group is a random sample from the same homogeneous population. If the groups cannot be shown to be random samples from the same population homogeneous with respect to the characteristic being studied, they have not been demonstrated to be the same with respect to that characteristic. The analysis is accomplished by a statistical procedure which compares the variation among the means of two or more groups with an estimate of that variation based upon the variation of the scores within the groups. When the variation among the means is relatively large in relation to this estimate, the groups cannot be considered to be random samples from the same homogeneous population; when the vari-

ation is relatively small, the groups may be so considered.

If the groups are, in fact, from the same homogeneous population, any observed differences between the groups are accidental and to be accounted for by the fact that samples rather than whole populations have been dealt with. If the groups are, in fact, from different populations, the observed differences are significant inasmuch as they reflect the presence of real or true differences between populations. If the groups can reasonably be considered to be from the same population, it is safest to assume that they are, because the object of the testing is to discover whether there are differences between the groups and very properly the burden of proof rests upon the demonstration that the groups are derived from different populations. If the groups cannot reasonably be considered to be from the same population, they may be presumed to be from different populations, in which case the differences between the groups are significant, i.e., statistically significant, or reliable differences, or real or true differences. The test, then, is: Can the groups reasonably be considered to be from the same homogeneous population? If they cannot, a significant or reliable difference may be accepted.

In either case it is a matter of whether groups "can reasonably be considered to be" of a certain character. This is the point at which inference and judgment enter the process. Starting with certain assumptions about the general character of the data, the probability that the observed differences, which are differences

of a certain size and direction, would occur as a result of chance errors if the null hypothesis were true can be calculated with rigorous mathematical accuracy. That probability, under the assumptions of the method—all reasonable assumptions—is a fact. But the inference from the fact is a matter of judgment. If the probability of occurrence (under the null hypothesis) of differences which did actually occur is very small, almost anyone would discard the hypothesis. The only alternative would be to assume that a very unlikely event had, indeed, occurred. On the other hand, if the probability of occurrence of the differences which did actually occur is large, almost anyone would accept the hypothesis. Whenever the null hypothesis is rejected, even though the probability of occurrence of the observed differences is small, there is some danger that the unlikely event has, in fact, occurred and that the hypothesis does actually describe the population and should therefore be accepted. Whenever the null hypothesis is accepted, even though the probability of occurrence of the observed differences is large, there is a parallel danger that the null hypothesis has been wrongly accepted when some contrary hypothesis is, in fact, true. Thus one may actually have at hand significant differences and fail to recognize the fact.

From this it can be seen that the selection of a probability to mark the dividing point between acceptance and rejection of the hypothesis is a problem. If the probability selected is extremely small, the danger of failing to declare as significant differences that actually are, increases. Consequently an unduly rigorous criterion must be avoided. If the probability selected is relatively large, the danger of declaring as significant differences which are not, increases.

Inasmuch as for research purposes it is usually better to fail to find significant differences than to declare as significant differences which are not, a probability which is relatively small is usually chosen. The 5 per cent point and the 1 per cent point are commonly used and are referred to as levels of confidence. At the 5 per cent level, the probability of occurrence of differences of the size in question or larger is 5 times in 100 under the null hypothesis; at the 1 per cent level, once in 100 times. If the probability of occurrence of differences of a given size is only once in 100 times under the null hypothesis, and differences of that size are observed, practically all research workers would reject the hypothesis. Such an event is too unlikely, and one is obliged to choose another hypothesis under which the event is more likely. If the probability of occurrence of differences of a given size is greater than 5 times in 100 under the null hypothesis, and differences of that size are observed, ordinarily conservative research workers will accept the hypothesis because although the event is unlikely it is better to be safe and reject differences as not significant than to accept as significant differences which are not and, perhaps, have to regret the action later. There is nothing sacred about either point, however.

The result of analysis of variance procedures is a ratio called *F*. For any given number of groups of specified sizes, there is a value of *F* for any given level of confidence under the null hypothesis. Values of *F* at several levels are available in printed tables. Interpretation of an obtained *F* involves comparing it with the table value of *F* for groups of the given number and sizes at the selected level of confidence. The larger the obtained value of *F* compared with the

table value of  $F$ , the more extreme or smaller is the percentage signifying the level at which the differences are just significant and the smaller is the probability that the obtained differences would occur as a result of chance errors when the null hypothesis is true, and vice versa. When the obtained  $F$  is larger than the table value of  $F$ , the differences may be accepted as significant with even greater confidence than the table level indicates. In this report the obtained value of  $F$  and the table values of  $F$  (17, pp. 184 ff.) for both the 5 per cent and the 1 per cent level of confidence will be given. With this information, in each case, the reader may form his own opinion as to whether the hypothesis should be accepted or rejected.

The data explored consist of 1035 recommendations written for 183 candidates who were nominated for 58 different positions in 8 different subject matter categories. Of the 183 candidates, 58 were successful and 125 are their unsuccessful competitors. The number of candidates per vacancy varies from 2 to 8. Each recommendation has a score representing its quality derived by the procedure explained in Chapter 3.

These recommendation scores vary from recommendation to recommendation and a measure of such variation can be found for any given group of recommendation scores. For example, if the recommendations of a single candidate are taken, the variation in those scores can be ascertained. At the same time if those scores are averaged, a mean score for the candidate is obtained. And these candidate scores vary from one to another giving a second measure of variation. From this and similar sets of relationships, two measures of variation may be obtained, a measure of variation within the groups of scores from which

the group means have been derived, and a measure of variation among the group means that have been derived. Analysis of variance methods rests upon a comparison of these two measures of variation, and for purposes of elementary exposition,  $F$  may be thought of as the ratio between them.

A similar pattern results if the recommendation scores are grouped on other bases. If the recommendation scores of all of the candidates nominated for a single position are grouped together and averaged, a mean is obtained which is a position score. Again there is variation in the recommendation scores that make up the position mean or score and variation in the position means or scores themselves. If the recommendation scores of all candidates majoring in a given subject are grouped together and averaged, a subject score is obtained. Likewise there will be variation among these subject scores and among the recommendation scores of which each is made up. Finally if the recommendation scores of all candidates are grouped according to whether the candidate was successful or unsuccessful and averaged for each group, means will be obtained which may be taken as scores for the respective groups. These two means will differ and a measure of the variation or difference between them may be calculated. And again there will be variation among the recommendation scores of which the group mean is made up. The basic unit throughout has been the score of a single recommendation. Similar groupings could be obtained with the candidate mean as a score and basic unit. In each case the variation among the means is to be compared with the variation within the groups of scores from which the means are obtained. Roughly speaking, if the variation among the means is

small, the groups whose means have been evaluated may be presumed to be from the same population; if the variation among the means is large, the groups must be presumed to be from different populations, which is equivalent to saying that the differences between the groups are significant. More precisely speaking, the evaluation of the variation among the means by comparison with the variation among the scores centers in the F ratio which is not very different from 1 when the groups are random samples from the same population, and tends to deviate from 1 in the direction of greater magnitude when the groups are from different populations.

The procedure with which the recommendations were analyzed and the data recorded is explained in Chapter 3. In this process a quality rating was estimated for each evaluation of the candidate by the writer of the recommendation. The mean of these quality ratings was calculated for each recommendation and assigned as a score representing recommendation quality. In the case of a series of evaluations of the same trait, the rating was based upon the impression made by the impact of the whole series; and in the calculation of the mean for the recommendation, such a rating was weighted by the number of evaluations in the series. All of the analyses of the association between placement success and recommendation characteristics here reported were made with recommendation quality as the measure of recommendation excellence.<sup>5</sup>

<sup>5</sup> Plans were made for investigating the association between placement success and length of recommendation, but because preliminary exploration revealed little promise, the work was discontinued. With a group of candidates some of whom were later dropped before the analyses were made with regard to recommendation quality, the differences among candidate scores

The first analysis was made grouping the recommendations according to the candidate for whom they were written, yielding 183 groups of recommendations, each group being all of the recommendations of a given candidate. There is a relatively wide variation among the 183 candidate scores, as can be seen from Table 1, and the obtained F is significant

TABLE 1

Relation of the variation among candidate scores to an estimate of this variation based upon the variation among recommendation scores

Variation	d.f.	Sum of Squares	Mean Square
Among candidate scores	182	76.478*	.42021*
Among recommendation scores grouped by candidates	852	208.703	.244957
Total	1034	285.181	
$F = \frac{.42021}{.244957} = 1.7154 \text{ or } 1.72$			
$F(05) = 1.19$ $F(01) = 1.28$			

\* The sum of the quality ratings of the individual evaluations for a recommendation, an approximate number, usually had two digits but never more than two, and inasmuch as the number of evaluations was exact, the mean (recommendation score), an approximate number, usually had two significant digits and for uniformity was always written with two digits. Usually one decimal place in the mean was significant. However, to prevent unduly large rounding errors and for uniformity, in every instance, two additional decimal places were carried throughout the computation of the Sum of Squares and the Mean Square. The number of significant digits in each is two less than the number recorded. The number of significant digits in the obtained F is the number finally recorded.

were not significant at the 5 per cent level. This indicates that length of recommendation, as measured by the number of Inventory items commented upon not unfavorably, did not even distinguish reliably among the candidates themselves.

Plans were also made for investigating the relation between individual traits and placement success, but because an exhaustive study would in reality have amounted to a second investigation, these plans were postponed. The chi-square test was applied to determine whether in likely looking cases the frequency of mention of individual Inventory items was significantly greater for successful candidates than for unsuccessful candidates. A discrepancy not to be

at a point well beyond the 1 per cent level. Evidently the null hypothesis, that all of the candidate scores are derived from random samples from the same homogeneous population of recommendations, is untenable, and the differences among the candidate scores must be considered to be significant. This means that the candidate scores differ reliably from each other, and that the recommendations discriminate among the candidates. This result is what might be expected, but the fact that it was obtained validates the recommendation scores as estimates of recommendation quality.<sup>6</sup> Failure of recommendation scores to discriminate reliably among the candidates would have indicated either that the candidates did not differ reliably from one another, or that the procedure for analyzing the recommendations was not sufficiently diagnostic, or both. While there is reason to believe that the procedure for analyzing the recommendations was not maximally diagnostic, the finding that the recommendation scores obtained from it discriminate among the candidates validates the procedure as a useful instrument.

The principal relationship this study undertakes to explore is that between recommendation quality and placement success. The first work on the question that the author could find reported was done by Morrisett who investigated this question, "How and to what extent do letters of recommendation written about

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reasonably accounted for by chance errors was found for only one of the Inventory items, but with the total number of frequencies being 42 and with theoretical frequencies as small as 4, even the appropriateness of the test is in some doubt. More exact tests were not applied because the crude application of the chi-square test gave so little promise of significant results.

<sup>6</sup>In this connection it is worthwhile to note that the number of Inventory items commented upon not unfavorably did not distinguish reliably among the candidates.

candidates selected for high school teaching positions vary from those written about candidates who were not selected for similar positions in the same school system?" (13, p. 7). In his research Morrisett analyzed 1851 letters of recommendation with the technique and list of traits used by Charters and Waples in the Commonwealth Study referred to earlier (see pp. 13-14). In addition he analyzed 195 letters of recommendation written for candidates who were unsuccessful in securing positions in the same school systems in which 40 of the total number of candidates for whom the 1851 letters were written did secure positions. His conclusions are quoted here. "The results of this investigation indicate that letters of recommendation written about candidates who were selected for high school teaching positions do not vary in any observable degree from letters written about candidates who were not selected for similar positions in the same school systems. The same items of information appeared with relatively the same frequency in the letters written about the teachers who were not employed as in the letters about those who were employed" (13, p. 118).

At the Sixth Annual Fall Conference of the National Institutional Teacher Placement Association Evan R. Collins (9) reported on a study made at Harvard University in which written recommendations of "better candidates" were compared with those of "less desirable candidates." From the brief report available it is not clear whether the "better candidates" were successful and the "less desirable candidates" unsuccessful, or not.

As the employer probably thinks in terms of candidates rather than individual recommendations, the candidate score is probably the more appropriate unit to employ in the comparison of

successful candidates with their unsuccessful competitors. Since the candidate score has been shown to distinguish reliably among candidates, it is a dependable unit. Had that not been the case, no further analysis would have been justified.

The mean candidate score for the successful group is 2.451 and the mean for the unsuccessful group is 2.518, indicating that the successful candidates have slightly better scores. The difference between these two means is slight, .067 being less than one-tenth of an interval on the Quality Rating Scale. Nevertheless, if the variation between the two means is great relative to the variation among the scores of which the means are composed, the difference between the two means is significant, small as it is. Reference to Table 2 will show that

TABLE 2

Relation of the variation between the mean candidate score for successful and for unsuccessful candidates to an estimate of this variation based upon the variation among candidate scores

Variation	d.f.	Sum of Squares	Mean Square
Between success-category means	1	.179	.179
Among candidate scores grouped by success categories	181	14.403	.079575
Total	182	14.582	
$F = \frac{.179}{.079575} = 2.25 \text{ or } 2$			
		$F(05) = 3.89$	$F(01) = 6.76$

such is not the case. The obtained  $F$  cannot be considered significant at the 5 per cent level. At first glance this might seem to end the matter, but there are other possibilities to be considered.

The magnitude of  $F$  is related to two variations, one, the variation in the group means represented by the numerator of the fraction, and, two, the variation in the scores within groups repre-

sented by the denominator. If either of these parts of the fraction contains elements that are not in the variation intended to be represented, that part is spuriously enlarged and as a result the  $F$  is either spuriously inflated or deflated.

If the 183 candidates are grouped according to the position for which the candidate was nominated, 58 groups with 58 means or position scores are produced which are significantly different at the 5 per cent level as is shown in Table 3.

TABLE 3

Relation of the variation among position means derived from candidate scores to an estimate of this variation based upon the variation among candidate scores

Variation	d.f.	Sum of Squares	Mean Square
Among position means	57	5.859	.1028
Among candidate scores grouped by positions	125	8.723	.06978
Total	182	14.582	
$F = \frac{.1028}{.06978} = 1.473 \text{ or } 1.5$			
		$F(05) = 1.45$	$F(01) = 1.68$

This is as might be expected inasmuch as the rewards of the positions vary widely, with better candidates being nominated for the superior positions. The presence of significant positional differences has a crucial bearing on the evaluation of the variation between the scores of successful candidates and the scores of their unsuccessful competitors. The variation between the mean score for successful candidates and the mean score for unsuccessful candidates cannot be broken up into constituent variations, but the variation among candidate scores in the two groups (successful and unsuccessful candidates) can. It contains two elements, one, variation among candidates for the same position, and, two, variation among position scores, and the latter variation is significant. Reference

has been made to the fact that successful candidates were to be compared, not with unsuccessful candidates in general, but with candidates who had competed unsuccessfully for the same positions. To reach this objective a method must be found for eliminating positional variation from the base used for evaluating the differences between successful and unsuccessful candidates for the same position. The differences among position scores are an extraneous element to comparisons within positions.

Table 2 shows what happens when the variation between successful candidates and unsuccessful candidates is compared with the variation among candidate scores when the latter contains a variation among position scores as one of its constituent elements. The denominator of  $F$ , representing the variation among candidate scores, is spuriously inflated and as a result the obtained  $F$  does not represent the comparisons desired. It is not surprising that the obtained  $F$  is not significant.

Another objection to the method represented by the result of Table 2 is that the variation between the two success-group means, represented in the numerator, is inaccurate because the candidate scores, of which one of the two means is made up, come disproportionately from the different positions. Since there is a significant variation among position means, the fact that the number of unsuccessful candidates varies from position to position is crucial. Thus the proportion of unsuccessful candidates from superior positions may have been greater than the proportion of superior positions in the total number of positions. If this had been true, it would have had the effect of reducing the differences between the successful and unsuccessful candidates, inasmuch as the number of suc-

cessful candidates is uniform throughout the range of positions, being one to each, of course.

What is required is a method for comparing successful candidates with their unsuccessful competitors, position by position, thereby eliminating positional variation as well as the effect of unequal numbers of unsuccessful candidates among the several job-situations. This is provided for in a method suggested by Johnson and Neyman (11). For purposes of elementary exposition, the Johnson-Neyman procedure may be thought of as a method for effecting a pooling of comparisons made within job-situations. All of the candidates for each position are classed in one or other of the eight subject matter categories and therefore by eliminating positional variation, subject matter variation is also eliminated. The Johnson-Neyman method takes each individual position in turn and compares the score of the successful candidate (which is also the mean) with the mean for his unsuccessful competitors, and evaluates the difference between these two means in relation to the variation

TABLE 4

Relation of the variation between the score of the successful candidate and the mean of the scores of his unsuccessful competitors to an estimate of this variation based upon the variation among candidate scores unaffected by the variation among job-situation means

For all 58 job-situations

Variation	d.f.	Sum of Squares	Mean Square
Among job-situation means	57	5.859	
Between success-category scores	1	.281	.281
Among candidate scores of the same job-situation and the same success category	124	8.442	.06808
Total	182	14.582	
$F = \frac{.281}{.06808} = 4.13$ or 4		$F(05) = 3.92$ $F(01) = 6.84$	

in candidate scores. This is done for each job-situation and the final *F* represents a pooling of the results.

Table 4 indicates that for the entire group of 58 job-situations, the obtained *F* is significant at the 5 per cent level. The null hypothesis tested by this information states that the two groups of scores, the candidate scores of successful candidates and the candidate scores of their unsuccessful competitors, are random samples from a homogeneous population. The obtained *F* is of a size that would occur about 5 times in 100 if the hypothesis were true. What conclusion regarding the population should be drawn from that known fact? Should the conclusion be that the event which did occur is unlikely under the null hypothesis and that therefore the hypothesis should be rejected and another hypothesis posited to explain the condition? Or should the conclusion be that while the event is unlikely, it is not so very unlikely, and the unusual did occur and therefore the hypothesis should be retained. The author leaves it to the reader to form his own judgment. If the null hypothesis is rejected the differences between successful candidates and their unsuccessful competitors are to be considered significant. If the null hypothesis is accepted, the differences are not to be considered significant. Most research workers would reject the null hypothesis.

When the differences between the means, job-situation by job-situation, are considered, it is evident that in 34 of the job-situations the score of the successful candidates is lower (i.e., better) than the mean of the scores of the unsuccessful candidates, and in 24 job-situations higher. Inasmuch as sometimes the lower score favors the successful candidate and

sometimes the mean for the unsuccessful candidates, an explanation is provided for the very small difference between the mean for all 58 of the successful candidates and the mean for all 125 of the unsuccessful candidates, a difference which is as small as .067. If the difference between the score of the successful candidate and the mean score for the unsuccessful candidates is computed for each job-situation individually, 58 differences are obtained. Disregarding signs, the mean of these 58 differences is .250, and the median is .217, both of which are much greater than .067. These are the differences which might presumably be evident to a reader of recommendations provided he had the set of recommendations of the successful candidate and a composite set for the unsuccessful candidates and provided he did not know which was which. As can be readily seen the mean of the individual differences is small, being only one-quarter of an interval on the Quality Rating Scale, and does not warrant the assumption that in any individual case the successful candidate can be distinguished from the unsuccessful candidates. The range of the differences is from .015 to .999, and the standard deviation is .193.

It is interesting to note that the median for the 34 differences which favor the successful candidate is .24 whereas the median for the 24 differences which favor the unsuccessful candidates is only .16. The differences favoring the unsuccessful candidates are in no case greater than .529 whereas the differences favoring the successful candidate are as great as .999. Of the 58 successful candidates, 23 or 40% had the highest score of all of the candidates of their job-situations. Thirty candidates had scores that gave them a rank among the candidates of

their own job-situations above the median position, and 9 had ranks at the median position.<sup>7</sup>

In Chapter 5 the effect of extra-recommendation factors was discussed and the nominees were classified as to whether their candidacy had been affected by such interfering factors. If either a candidate's success or his failure could have been accounted for by such factors, he was considered to have been affected. In either case the candidate's recommendation quality score does not represent his normal chances for placement success because the intrinsic relation of the latter with recommendation quality has been interfered with by extra-recommendation factors.

Among homogeneous job-situations unaffected successful candidates might be expected to have lower (i.e., better) recommendation quality scores than affected successful candidates inasmuch as unaffected successful candidates supposedly were successful because their recommendations were relatively good while affected successful candidates may have been successful because of the influence of extra-recommendation factors. Unaffected unsuccessful candidates, on the other hand, might be expected to have higher (i.e., poorer) scores than affected unsuccessful candidates inasmuch as unaffected unsuccessful candidates supposedly were unsuccessful because their recommendations were relatively poor while the affected unsuccessful candidates may have been unsuccessful because of the adverse influence of extra-

recommendation factors. And, in general, successful candidates might be expected to have lower scores than unsuccessful candidates. This means that unaffected candidates might be expected to be found at the two extremes of the distribution of unadjusted means found in Table 5. The actual figures do not

TABLE 5

Unadjusted and adjusted means of candidate scores of groups classified in relation to the influence of extra-recommendation factors arranged in ascending order based upon the expected magnitude of the unadjusted mean, together with the data for the adjustment of the means

Groups	Unad-justed Means	Ad-justed Means
Unaffected successful candidates (N=42)	2.391* (+.034)	2.425
Affected successful candidates (N=16)	2.608 (-.125)	2.483
Affected unsuccessful candidates (N=23)	2.632 (-.125)	2.507
Unaffected unsuccessful candidates (N=102)	2.493 (+.034)	2.527
General mean for all candidates, $\frac{456.955}{183} = 2.497$		
Mean for all unaffected candidates, $\frac{354.684}{144} = 2.463$		
Mean for all affected candidates, $\frac{102.271}{39} = 2.622$		
General mean minus the mean for unaffected candidates, $2.497 - 2.463 = .034$		
Mean for affected candidates minus the general mean, $2.622 - 2.497 = .125$		

\* Only one decimal place in the means is significant.

seem to confirm the expectation. One analysis would conclude that the mean of the fourth group is inconsistent with the others. Another, and more fruitful supposition, however, is that the means of the second and third groups are inconsistent. Notice that both of these are affected groups. The original line of

<sup>7</sup> Among five candidates arranged in the order of their scores with the best (lowest) scoring candidate first, the first and second candidates have ranks above the median position, the third candidate has a rank at the median position, and the fourth and fifth candidates have ranks below the median position.

reasoning posited homogeneous job-situations, but suppose there were reliable differences between the job-situations in which extra-recommendation factors operated and those in which they did not operate? As a matter of fact, such is the case, as will be shown by analysis of variance. But it is interesting to note that when the means are adjusted for the difference between the mean for all unaffected candidates and the general mean, and for the difference between the mean for all affected candidates and the general mean, the order of magnitude is precisely as might be expected.

The study of the effect of extra-recommendation factors in Chapter 5 left three classes of job-situations:

1. Those in which either the successful candidate or all of the unsuccessful candidates, or both, were affected, leaving no pairs of competing candidates in which the relation was not subject to interference; 16 job-situations with 39 candidates.
2. Those in which none of the candidates were affected; 25 job-situations with 80 candidates.
3. Those in which one or more but not all of the unsuccessful candidates were affected and therefore had to be eliminated, but the job-situation was retained with whatever pairs of competing candidates remained unaffected by extra-recommendation factors. By eliminating 23 affected candidates in otherwise unaffected job-situations, 17 job-situations were retained with 41 remaining candidates.

Combining Classes 2 and 3 there are 42 job-situations with 121 candidates in which the relations of all of the pairs of competing candidates are free from the influence of extra-recommendation factors.

It has already been stated that there are reliable differences between job-situations in which extra-recommenda-

tion factors may have operated and job-situations in which they were absent. This relation was analyzed with the Johnson-Neyman method for the 39 candidates of Class 1 as one group and the 121 candidates of Classes 2 and 3 combined as the other group. In order to eliminate the differences between successful and unsuccessful candidates from the comparisons between affected and unaffected candidates, the analysis was made by success groups. In other words, the scores of affected successful candidates were compared with those of unaffected successful candidates, and the scores of affected unsuccessful candidates were compared with those of unaffected unsuccessful candidates, and the results pooled. As is shown in Table 6 the dif-

TABLE 6

Relation of the variation between the mean score for candidates unaffected by extra-recommendation factors and the mean score for candidates affected by extra-recommendation factors to an estimate of this variation based upon the variation among candidate scores unaffected by the variation between success-category means

For 58 job-situations which, with 23 of the original candidates eliminated, were internally homogeneous with respect to extra-recommendation factors

Variation	d.f.	Sum of Squares	Mean Square
Between success-category means	1	.077	
Between means for unaffected and affected candidates	1	1.083	1.083
Among candidate scores of the same category with respect to success and extra-recommendation factors	157	11.263	.071739
Total	159	12.423	
$F = \frac{1.083}{.071739} = 15.10 \text{ or } 15$			
		$F(05) = 3.91$ $F(01) = 6.81$	

ferences between affected and unaffected candidates are highly reliable. The obtained F is significant at a point far beyond the 1 per cent level.

Because the differences between affected and unaffected candidates are so reliable, the differences between successful and unsuccessful candidates were analyzed for only the 42 job-situations with the 121 unaffected candidates. In this analysis the effect of extra-recommendation factors on the comparisons was removed, but at the expense of a very considerable reduction in the amount of data. Again the Johnson-

TABLE 7

Relation of the variation between the score of the successful candidate and the mean of the scores of his unsuccessful competitors to an estimate of this variation based upon the variation among candidate scores unaffected by the variation among job-situation means

For 42 job-situations which, with 23 of the original candidates eliminated, were unaffected by extra-recommendation factors

Variation	d.f.	Sum of Squares	Mean Square
Among job-situation means	41	3.310	
Between success-category scores	1	.214	.214
Among candidate scores of the same job-situation and the same success category	78	4.646	.05956
Total	120	8.170	
$F = \frac{.214}{.05956} = 3.59$ or 4		$F(05) = 3.96$ $F(01) = 6.96$	

Neyman method was employed, the comparisons between successful and unsuccessful candidates being made position by position. The result is shown in Table 7. The obtained F is significant at close to the 5 per cent level. The difference in significance between the F obtained with 58 job-situations (Table 4) and this F is slight and does not require any special explanation. However, it is interesting that the use of unaffected candidates exclusively did not produce an F significant at a more extreme level of confidence. The reduction in the amount of data may explain this failure.

This completes a description of the investigation into the relation between recommendation quality and placement success. Before a conclusion is reached it is well to remember that one can demand too extreme a level of significance and thereby overlook differences that are truly significant. The author believes that there is a reliable association of recommendation quality, as estimated by the procedure used, with placement success, and that successful candidates have recommendations that are reliably better than those of their unsuccessful competitors.

## CHAPTER 7

### CONCLUSIONS

THIS INVESTIGATION may be described as a study concerned with the effectiveness of written recommendations in the placement process with the focus of attention upon the question of whether there are statistically significant differences between the quality of the recommendations of successful candidates and the quality of the recommendations of the candidates who unsuccessfully competed for the same positions. The statistical analysis uncovered a reliable association between superior recommendation quality, as defined in the investigation, and placement success (Tables 4, 7). But the fact of association does not establish a causal relation and the implications from the fact must rest upon a qualitative analysis of the relation studied. It is difficult to conceive of superiority of recommendation quality as being other than a positive factor contributing to or helping to cause placement success. Recommendations are written for the purpose of evaluating the individual as a candidate for a position and superior recommendations are intended to cause placement success. When, therefore, superior recommendations are found to be associated with placement success, a natural conclusion is that they have helped to cause such success in the sense that candidates with superior recommendations are chosen partly because they have superior recommendations. Of course, it is recognized that superior recommendations have significance only because they are symptomatic of superior qualifications possessed by the candidate. Thus, while within the framework of the placement process superior recommendations may be con-

sidered to cause placement success, in a more fundamental sense the cause lies deeper. Nevertheless, it is worthwhile to study the placement process itself and to attempt to trace causation within the process. Accordingly, and in that context, the author will state as his conclusion that there is association between superior recommendation quality and placement success, and that the investigation did not produce grounds for denying the logical inference from a qualitative analysis of the relation, namely, that superior recommendation quality is a contributing cause of placement success. In other words, the investigation found that recommendations of superior quality are effective in the process of securing a teaching position. This refutes the charges of some members of the profession that recommendations are, practically speaking, of no consequence in the placement process.

In addition, employers must be given more credit for discrimination in their selection of appointees than is sometimes granted them. Undoubtedly pure luck is a large element of success in getting a position, but the fact that in the long run employers select the apparently more worthy candidates will come as a surprise to some people.

The question of whether an estimate of recommendation quality is a valid measure of the candidate was not studied, but an incidental finding has a bearing on the problem. To be valid a system of estimates would have to discriminate reliably among the candidates, and correlate with a criterion. The result shown in Table 1 indicates that the

estimate of recommendation quality discriminates reliably among the candidates and thereby satisfies the first requisite. Quite apart from the findings of this investigation, it is commonly believed that, in general, employers try to select the superior candidates for appointment. If that is true, and if the judgment of employers as evidenced in their appointments is a satisfactory criterion, the significant association found between superior recommendation quality and placement success indicates a reliable degree of correlation with a criterion. This satisfies the second requisite. To that extent, then, the estimate of recommendation quality may be considered a valid measure of candidate quality. The reader is warned, however, that the criterion is far from adequate.

Those that are skeptical of the validity and effectiveness of written, or descriptive, recommendations frequently offer as a substitute scaled ratings of the candidate on a list of traits. While in the controversy between the advocates of descriptive recommendations and scaled ratings the important consideration to bear in mind is that there is no practical or other reason why both cannot be used, there remains at least a theoretical interest in the question. The findings that recommendations reliably discriminate among candidates, that recommendations seem to influence the employer, and that employers tend to choose candidates with recommendations of superior quality offer no support for the position of the proponents of scaled ratings. Obviously the findings of this study do not settle the question.

Other findings incidental to the main investigation have important implications. As is shown in Table 3 it was discovered that nominees for given positions as groups differ reliably from one

another. This indicates that the placement executive has done considerable selecting among candidates when nominations are made. Thus the recommendations have already served a useful function even before they are presented to the employer. This selection by narrowing the range of calibre of the candidates nominated reduces the likelihood of demonstrable differences between the recommendations of successful and unsuccessful candidates. That significant differences should have been found, nevertheless, is somewhat remarkable and a result of the precision of the statistical method employed.

The highly reliable differences found between candidates nominated in job-situations marked by extra-recommendation factors and those not so marked as shown in Table 6 suggests questions which might well be the subject of further investigation. It would be interesting to know, for instance, if the positions of job-situations marked by extra-recommendation factors attract inferior candidates because they offer inferior rewards. The question would be especially interesting if it were investigated with respect to unreasonable requirements acting as interfering factors.

The small mean difference between successful candidates and their unsuccessful competitors calculated for individual job-situations, one-quarter of an interval on the Quality Rating Scale, suggests that the procedure for analyzing recommendations and estimating their quality is not safe for the prediction of success or failure for an individual candidate in a given job-situation.

One of the most important findings, shown in Table 1, is the demonstration that it is possible to construct a procedure that will produce a score which reliably discriminates among candidates.

This means that a new field has been opened for research, which although relatively restricted, has important problems remaining for attention. Other characteristics of recommendations should be studied to discover if there is association between superiority with respect to the characteristic and placement success. Characteristics that come to mind are:

1. Length of recommendation, or number of items commented upon not unfavorably.
2. Proportion of comment upon important items as opposed to unimportant traits.
3. Proportion of evaluation of the candidate as opposed to information about the candidate.
4. Quality of evaluation weighted for the importance of the items commented upon.
5. Number of significant items not commented upon.
6. Amount of adverse comment.
7. Date of the recommendation.
8. Reputation of the writer of the recommendation.
9. Degree and character of the acquaintance of the writer with the candidate.
10. Degree and character of the acquaintance of the writer with the candidate's teaching.

In addition, investigations might well be made of association between placement success and either comment upon

individual items or quality of comment upon individual items. The findings of such a study would indicate the traits and qualifications that employers value on the basis of their actions. Heretofore there have been studies only of what employers say about traits and qualifications and their relation to teaching success. It may be that what employers say on the subject is different from what they base their actions upon when actually selecting teachers.

The principal lack in the study, as the author sees it, is that interviews were an uncontrolled factor. The principal merit lies in the fact that actual concrete job-situations were dealt with. Successful candidates were compared with the specific candidates who were rejected by the same employer for the same position. The criterion of success is absolutely certain. The decisions of the employers studied were not what they think they would have done in such and such circumstances, but what they actually did. Although the statistical procedure would have been greatly facilitated if convenient numbers of candidates and job-situations could have been chosen, the authentic character of the data more than compensated for the loss.

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## APPENDIX

### OUTLINES OF JOB-SITUATION STUDIES

Outlines of the individual studies of the job-situations referred to in Chapter 5 are presented in the following pages.

1. In each study, the candidates, designated by letters, are listed in alphabetical order, the successful candidate invariably being listed first. Candidate A is always the successful candidate.
2. Candidates eliminated from the job-situations are marked by an asterisk preceding the letter designating the candidate.
3. If the specification was stated in the inquiry as a preference rather than a requirement, the fact is indicated in the outline.
4. When marital status, the number of children, and the degree held were considered to be unimportant factors in a job-situation, information with regard to them is omitted from the tabular arrangement.
5. The following special abbreviations are used in the tabular arrangement:

Abbreviation	Meaning
•	That the candidate was eliminated from the job-situation.
P	Protestant.
C	Roman Catholic.
o. k.	Adequate subject matter preparation in the field in which the position is open.
?	Questionable subject matter preparation in the field in which the position is open.
	If the candidate's field of primary specialization differs from the one in which the position is open, it is named.
M	That the candidate is married.
	The number of children the candidate has is given after the symbol for marital status.
S	That the candidate is single.

#### No. 12

Public school.  
English, grade 9.  
Sex requirement: Man.  
Specifications: Ability to assist in the coaching of football and basketball. Experience not required if the candidate has a strong scholastic record.

Candidate	Sex	Age	Religion	Field	Experience
* A	M	28	P	o. k.	0
* B	M	24	P	o. k.	2

Candidate A was without teaching experience and had a definitely weak scholastic record judging from his recommendations, but he was able to coach football and basketball. Candidate B with 2 years of experience and a better scholastic record could coach only track and tennis. If the quality of the recommendations is not considered, presum-

ably ability to coach football and basketball outweighed both scholastic achievement and experience—despite the fact that the inquiry indicated that experience would be required unless the candidate had a strong scholastic record.

The job-situation was eliminated.

## No. 18

Public school in a system widely known for its "progressive" outlook, organization, and program.

Junior and senior high school speech, dramatics, and public speaking to be integrated with the work of other courses.

Sex requirement: None.

Specifications: None.

Candidate	Sex	Age	Religion	Field	Experience	Marital Status	Degree
* A	F	37	"Not a member of any"	English	19	S	None
* B	F	30	P	o. k.	2 college	M-o	M. A.

Candidate A emphasized in the credentials her desire to teach in a "progressive school" and her sympathy with "progressive education."

Candidate A did not have a bachelor's degree at the time she was employed, but the credentials indicated that she would receive the degree in the February following the September in which the work of the position was to begin. (She actually received the degree a year after that time.) This candidate's training in the field of speech was weak, noticeably so in contrast to that of Candidate B, but her experience had been in the very area desired, the integration of speech with other activities and subject matter materials.

Candidate B had had much more formal training in the field of speech and, in addition, as was emphasized in her credentials, valuable experience in the professional theatre. She had neither the quantity nor quality of teaching experience of Candidate A, however.

Candidate B was married, but it is unlikely that in this system that fact would have been to her disadvantage.

Because of the difference in quantity and quality of experience of the two candidates and the difference in attitude toward "progressive education," it was decided that there might have been interference.

The job-situation was eliminated.

## No. 22

Public high school.

Spanish for advanced students.

Sex requirement: None.

Specifications: None.

Candidate	Sex	Age	Religion	Field	Experience	Marital Status
A	F	39	"None"	o. k.	13½	M-o
* B	F	24	P	?	0 **	S
C	F	43	"Non-member"	o. k.	16	S

\*\* Candidate B had had 5 weeks of substitute teaching experience.

Candidate B was eliminated because of her weak preparation and lack of teaching experience.

Candidate A had had more teaching experience in Spanish than Candidate C, but the latter was qualified to teach advanced high school students in Spanish even though her major was French. Her experience included 4 years of teaching freshman and sophomore Spanish in a teachers college as well as critic teaching in Spanish in the

training school. Her preparation in Spanish in terms of graduate courses was almost as thorough as that of Candidate A.

It seems unlikely that the difference of 4 years in the ages of the two candidates was a factor.

Note how each of these two candidates replied to the question regarding church affiliation.

The job-situation was retained with Candidates A and C.

## No. 24

Public school.  
Latin, 4 classes, and Italian, 1 class; high school level.

Sex requirement: None.

Specifications: None.

Candidate	Sex	Age	Religion	Field	Experience	Marital Status
* A	M	26	C	History	o	S
* B	F	23	C	o. k.	o	S
* C	F	26	C	o. k.	o	S

The credentials of Candidate A, a "local candidate," were requested by the employer. If the list of courses, undergraduate and graduate, presented in the candidate's credentials is accurate, he could not properly have obtained a certificate to teach Latin in the state in which the position was located, although he had had 16 semester hours of undergraduate work in Latin. He had had no training in Italian, and there is no evidence that he was of Italian extraction or that he was brought up in a home where Italian was spoken. The transcript of his undergraduate work on file in the Registrar's Office had been sent to the state department of education involved so the accuracy of the lists of courses presented in the credentials could not be checked, but it seems reason-

able to assume that the candidate was not as well prepared to teach Latin as his competitors. Candidate A stated that he was prepared to accept positions in "history, English, social science, and also Latin, elementary mathematics, and grammar grade work." The report on the position returned by the candidate indicates that he actually taught Latin and English while in the position. Presumably the extra subject to be taught was changed to suit the candidate's preparation. Without the quality of the recommendations being taken into account, this seems to be a case in which a "local candidate" was given the position in spite of the other considerations.

The job-situation was eliminated.

## No. 37

Public high school.

Social science.

Sex requirement: Man.

Specifications: Experience preferred. Ability to assist with the coaching of football, but not necessary if of good calibre otherwise.

Candidate	Sex	Age	Religion	Field	Experience
A	M	37	P	o. k.	o
* B	M	24	C	o. k.	o
C	M	28	P	o. k.	1 college teaching of German 5 supervision of recreation

A Had had no experience and apparently no ability in athletics.

B Could coach athletics.

C Had had extensive experience in the direction of athletics and recreation.

Candidate B, who stated an interest in the high school age group, was eliminated because of the possibility that there might be prejudice against his religious affiliation. The Office of Placement Service executives did not know the community or the employer well enough to be confident that religion would not operate as a factor in this job-

situation.

Apparently the preferences listed in the inquiry really operated as preferences rather than as requirements. The successful candidate was not experienced either in teaching or in the direction of athletics.

The job-situation was retained with Candidates A and C.

